SITUATIONAL ASSESSMENT OF PROBLEM GAMBLING SERVICES IN CALIFORNIA

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EXECUTIVE SUMMARY

Introduction

The purpose of this report is to assist the Office of Problem Gambling in implementing the provisions of Assembly Bill 673 (Chapter 210, 2003 Statutes) which authorized the establishment of problem gambling services in California. The report identifies the current status of problem gambling research, programs and services in California and internationally and is the first step in California's problem gambling strategic planning.

Throughout this report, the term *problem gambling* is used to refer to the entire spectrum of gambling-related difficulties that individuals experience. At its most severe end, this continuum includes *pathological gambling*, a recognized psychiatric disorder.

The gambling industry in California has grown exponentially over the last twenty years, with revenues rising five-fold since 1997, from $2.5 billion to an estimated $13 billion in 2003. For most people, gambling is an occasional and enjoyable experience. For some people, however, gambling leads to debilitating problems that can also result in harm to people close to them and to the wider community. Some forms of gambling, most notably those that are continuous in nature and involve an element of skill or perceived skill, have a particularly strong association with problem gambling. While it is generally estimated that between 2 percent and 5 percent of the adult population are problem or pathological gamblers in jurisdictions with 'mature' gambling markets, prevalence rates among regular gamblers can be as high as 25 percent. Although legal gambling is well-established in California and promises continued rapid growth, little is known about Californians who experience problems related to their gambling or what measures would most effectively minimize or mitigate their problems.

The most promising way of preventing and mitigating problem gambling is through a public health approach that encompasses a broad range of activities. The range of activities can be grouped into six major areas:

1. **Identifying and maintaining key indicator data which will serve to monitor regular gambling behavior and problem gambling.**
2. **Strategic planning/coordination among state agencies, the gambling industry, and other key stakeholders which support and acknowledge community-based planning.**
3. **Developing science-based policy/regulations that govern access to and operation of the gambling industry.**
4. **Increasing workforce capacity to identify, intervene, refer and treat problem gamblers.**
5. **Providing science-based education, prevention, intervention, and treatment services.**
6. **Continuously evaluating policy and service effectiveness; modifying policies and services accordingly.**

Methods

Two approaches were taken to develop this analysis of the current status of problem gambling research, programs and services in California and internationally. The first approach included comprehensive reviews of existing research on problem gambling risk factors and epidemiology, current practices in problem gambling prevention and treatment and assessment of problem gambling services in other jurisdictions. The second approach involved identification and assessment of the extent and quality of problem gambling services in the State of California. Telephone and Email surveys with representative samples of California programs and agencies were conducted to assess the availability and quality of problem gambling services within the state in the past five years. The sampling frame included approximately 90,000 individuals belonging to education, law enforcement, mental health and addictions treatment and gambling associations, agencies and organizations. A sampling strategy designed to yield estimates with a margin of error of ± 5 percent with a 95 percent confidence interval was used to ensure that the responses were representative of the target audiences.

Assessment Findings

1. Identifying and maintaining key indicator data which will serve to monitor regular gambling behavior and problem gambling.

- There has been only one study of the prevalence of problem gambling in California, conducted in 1990. Based on the results of that survey, it was estimated that there were approximately 240,000 pathological gamblers and an additional 577,000 problem gamblers in the adult population in California.

- There have been no studies of gambling participation and involvement, attitudes toward legalized gambling and motivations for gambling. In addition, consistent gambling industry data is not routinely available and analyzed across all sectors within California.

2. Strategic planning/coordination among state agencies, the gambling industry, and other key stakeholders which support and acknowledge community-based planning.

- Although there have been general discussions regarding the need to establish a state-level body to coordinate California problem gambling activities, such a body does not currently exist.

- In the interest of efficiencies and due to the comorbidity of problem gambling with alcohol and drug abuse, California may want to take advantage of its existing local/county alcohol and drug abuse service network to support community-based problem gambling planning and services.

3. Developing science based policy/regulations that govern access to and operation of the gambling industry.

- While there appear to be clinically significant, inheritable risk factors for problem gambling, research suggests that a combination of genetic, psychological, social, and environmental risk factors contribute to development of the disorder.

- Policies that significantly enhance access to electronic gambling machines, casino table games, and other continuous gambling forms can be expected to generate increases in problem gambling. Risk profiles are also likely to change, with disproportionate increases among women and some other population sectors including ethnic and new immigrant minorities.

- There is growing interest in features built into electronic gambling devices that are intended to reduce the likelihood of players losing control over their gambling. Despite their intuitive appeal, there has been very little research into the development of these features or their effects on problematic behavior.

4. Increasing workforce capacity to identify, intervene, refer and treat problem gamblers.

- Results of Email and telephone surveys in California showed that 37 percent of gambling industry respondents had attended a training event on problem gambling in the last five years compared with 2 percent of law enforcement respondents and less than 1 percent of education respondents. The majority of these trainings were conducted by industry representatives or industry consultants. In contrast to education and law enforcement respondents, the majority of gambling industry respondents recalled participating in a problem gambling public awareness event in the last five years.

- Nearly three-quarters of crisis and treatment respondents, whose organizations did *not* provide treatment for problem gambling, did not know where to refer clients with gambling problems or only referred them to Gamblers Anonymous.

- There is no state supported training of treatment providers in California.

5. Providing science-based education, prevention, intervention, and treatment services.

Science-based Education Services

- Since the year 2000, advocacy organizations, gambling trade associations, and governments have developed focused campaigns to heighten public awareness of problem gambling. There has been little work to formally evaluate the effectiveness of these efforts, but where evaluations were made, media campaigns *promoting* gambling posed a challenge for problem gambling prevention efforts.

Science-based Prevention Services

- Some efforts to prevent problem gambling have been undertaken by sectors of the gambling industry. Measures include posting helpline numbers in gambling venues and voluntary exclusion programs. Voluntary exclusion programs have received the most evaluative attention. Important challenges to effective implementation of such programs include problems with systems of identification, detection, and enforcement as well as lack of integration with problem gambling service providers in the community.

- There are presently four statewide helpline numbers that problem gamblers in California can access. Calls from the four numbers are directed to one of two call centers. In 2003, there were 13,349 calls to these numbers; 21 percent of these calls (n=2,800) were from individuals seeking help for someone with a gambling problem. Among these calls, 60 percent originated from Southern California area codes, 20 percent originated from area codes in the San Francisco Bay Area, and 15 percent originated from area codes in the Sacramento or Fresno areas. Since 1999, the proportion of gamblers with a preference for casino games has increased dramatically, an indication of the impact of the introduction of tribal casino gambling in California.

- Helpline services are a key component of problem gambling services in many jurisdictions. Internationally, a number of lessons for ensuring effectiveness and maintaining satisfaction with helplines have been learned. It is essential to develop an adequate network of problem gambling counseling and self-help services to which callers can be referred. There is a need to ensure that helplines give timely and accurate information about local problem gambling services and referrals for a range of services. Finally, helpline staff need training in crisis intervention and in screening for comorbid disorders to ensure that suicidality and co-existing psychological disorders are identified and addressed.

Science-based Intervention and Treatment Services

- While AB 673 establishes a statutory framework for problem gambling treatment services, these services will only be funded when funds are appropriated for that purpose. At the time of this report, there was no appropriation for treatment services in California. Access to problem gambling treatment in California depends on proximity to a specialized provider, and the ability to pay for treatment, either with insurance or out-of-pocket. Although there are no formal policies among the largest California health insurers denying payment for the treatment of pathological gambling, there are measures in place that make it extremely difficult for patients and counselors to obtain reimbursement.

- One-fifth (21 percent, n=53) of the Crisis and Treatment respondents in California indicated that their organization *did* provide treatment for problem gambling. Fifteen of these respondents (29 percent) are based in Los Angeles County, 19 percent are based in Orange and Riverside counties, 13 percent are based in San Diego County, and two respondents (4 percent) are based in San Bernardino County. Nine of these respondents (17 percent) are based in the San Francisco Bay Area (Alameda, Contra Costa, San Francisco, San Mateo and Santa Cruz counties). Another seven respondents (13 percent) are based in the counties of Alpine, Fresno, Madera and Tuolumne. Based on these data and the 1990 prevalence survey, there is clearly an enormous gap between the need for problem gambling treatment in California and the availability of such services.

- Natural recovery, the process by which individuals with maladaptive behaviors attain a state of recovery without the help of a formal treatment program or self-help, is known to be the primary path out of alcohol abuse and dependence. The likelihood that natural recovery is common among problem gamblers provides hope for effectively preventing problem gambling in the community. With research indicating that many problem gamblers' behavior

is susceptible to change, targeted interventions and increases in public awareness may effectively reduce many individuals' progression toward more severe gambling-related problems.

- ❖ Among the strategies employed in the treatment of pathological gambling, cognitive-behavioral approaches are the most widespread. Treatment for pathological gambling is usually delivered as a specialized track within existing substance abuse programs and is typically provided by a combination of specialized and non-specialized providers. Most existing interventions for pathological gambling have not been extensively evaluated. Work is needed to standardize promising and effective interventions to enable independent replication of previous evaluations and enhance service delivery.

- ❖ Despite overlap and similarities between pathological gambling and some other mental disorders, there are also unique features that may be critical to understanding gambling disorders and designing effective treatments. It should not be assumed that practitioners trained to treat other disorders will be skillful in treating pathological gambling.

6. Continuously evaluating policy and service effectiveness; modifying policies and services accordingly.

- ❖ AB 673 requires that the Office of Problem Gambling evaluate the effectiveness of all services to determine the best practices for prevention and treatment. Although funding is limited in general, thought should be given to building an evaluation component into all prevention and treatment initiatives.

Conclusion

While there are substantial gaps in our knowledge of problem gambling, what is known suggests that significant increases in access to electronic gambling machines and other continuous gambling forms (including casino table games and track betting) in California will generate increases in problem gambling and related flow-on costs in coming years. Furthermore, although we know little about the contemporary risk profile for problem gambling in California, this is likely to change. Problem gambling prevalence is likely to rise substantially as the availability and accessibility of legal gambling in California increases although research suggests that it will eventually level out. What is not known is how quickly such efforts can have a significant impact and whether or not they can prevent increases in problem gambling entirely.

Our review of gambling regulation and policy as tools for problem gambling prevention suggests the need for both strategic planning and a comprehensive monitoring system in California. The monitoring system—which would provide a neutral database for strategic analysis and decision-making as well as an evidence base to reiteratively inform policy, program and service development—would consist of an integrated database, a basic research effort and a process for dissemination.

Prevention strategies can be expected to affect the attitudes and behavior of much larger proportions of the population. Evidence suggests that effective problem gambling awareness

campaigns targeting adults can lead to measurable increases in awareness of services, in calls to helplines and in clients seeking help. In developing mass media campaigns, it will be essential to conduct formative research to develop targeted and effective messages, use television as a broadcast medium and plan for extended campaigns. There is also some research suggesting that much larger numbers of individuals may be helped through brief interventions and public awareness campaigns than through formal, clinically-based treatment programs.

Formal treatment services have been primarily focused on the most severely affected individuals with gambling problems. A critical concern is that although formal treatment services in other states and jurisdictions receive the majority of available funding, evaluation and monitoring of these services has been limited. The focus on formal treatment has also led to a short-changing of research on problem gambling which has, in turn, limited the development of a theoretical understanding of gambling problems and hindered the ability to design effective interventions. Long-term strategic plans for research and evaluation as well as for prevention and treatment are needed along with provision for multi-year funding streams to ensure that the impacts of legal, commercial gambling in California are effectively addressed.

In summary, there are multiple jurisdictions with problem gambling programs in various stages of development and maturation; however, these programs have not been subjected to rigorous evaluation. California is in a position to benefit from these efforts but care should be taken to continuously evaluate initiatives that are undertaken. California should also actively pursue opportunities to collaborate with other state and national efforts in order to expand our understanding of problem gambling and how best to address this phenomenon from a public health perspective.

1. INTRODUCTION

In the United States and internationally, the last twenty years have witnessed substantial changes in the legal status of gambling and in public attitudes toward gambling. For most people, gambling is a form of entertainment with manageable social and financial costs. However, as the availability of legal gambling has increased, a growing number of individuals with severe difficulties related to their gambling have come to the attention of mental health professionals. *Pathological gambling* is a recognized mental disorder, characterized by a pattern of continued gambling despite negative physical, psychological and social consequences (American Psychiatric Association, 1994). Current epidemiological research suggests that between 1% and 2% of the U.S. adult population can be classified as pathological gamblers, a percentage that is similar to the prevalence of schizophrenia in the general population. An additional 2% to 3% of the U.S. adult population experience substantial problems related to their gambling but do not meet the diagnostic criteria for the recognized disorder of pathological gambling (Gerstein et al, 1999; Welte et al, 2001). Such individuals are most often referred to as *problem gamblers*.

Some of the impacts that problem and pathological gamblers may experience include psychological difficulties such as anxiety, depression, guilt, exacerbation of alcohol and drug problems and attempts at suicide as well as stress-related physical illnesses such as hypertension and heart disease. Interpersonal problems include arguments with family, friends and co-workers and breakdown of relationships, often culminating in separation or divorce. Job and school problems include poor work performance, abuse of leave time, and loss of job. Financial effects loom large and include reliance on family and friends, substantial credit card debt, unpaid creditors and bankruptcy. Finally, there may be legal problems as a result of criminal behavior undertaken to obtain money to gamble or pay gambling debts (Lesieur, 1998; Volberg, 2001). From a public health perspective, it is also worth noting that family members of problem gamblers experience substantial physical and psychological difficulties (Abbott & Volberg, 2000; Daghestani, Elenz & Crayton, 1996).

In 2003, as a result of the passage of Assembly Bill 673, the California Department of Alcohol and Drug Programs was authorized to establish the Office of Problem Gambling (OPG). The first priority of the OPG, as set forth by the Legislature, is to develop a problem gambling prevention program consisting of a toll-free telephone service for crisis management and referral, public awareness campaigns, empirically driven research programs, and training of health care professionals, educators, law enforcement agencies, nonprofit organizations, and gambling industry personnel. In designing and developing the overall program, OPG is directed to develop a statewide plan to address problem and pathological gambling, adopt any regulations necessary to administer the program, develop priorities for funding services and criteria for distributing program funds, monitor expenditures, and evaluate the effectiveness of the services that are provided. The Legislature has set as the first and highest priority of the office the development of a statewide plan to address problem and pathological gambling in California.

1.1. Defining the Terms

Gambling is a broad concept that includes diverse activities, undertaken in a wide variety of settings, appealing to different sorts of people, and perceived in various ways. Both gambling participation and attitudes toward gambling are linked to the communities in which these behaviors occur and to the norms and values of members of those communities. The common thread is that all of these activities involve risking the loss of something of value in exchange for the opportunity to gain something of greater value (Thompson, 1997).

For most people, gambling is an enjoyable, if occasional experience. Regardless of the gambling venue (e.g., buying a lottery ticket, placing a bet on a horserace, going to a casino for an evening or wagering privately with friends), most people gamble for entertainment or for social reasons and typically do not risk more than they can afford to lose. For some people, however, gambling leads to debilitating problems that can also result in harm to people close to them and to the wider community (Abbott & Volberg, 1999).

Pathological gambling was first recognized as a mental disorder in 1980 when it was included in the third edition of the Diagnostic and Statistical Manual (DSM-III) (American Psychiatric Association, 1980). Each subsequent revision of the DSM has seen changes in the diagnostic criteria for this disorder. The essential features of pathological gambling are presently defined as: (1) a continuous or periodic loss of control over gambling; (2) a progression, in gambling frequency and amounts wagered, in the preoccupation with gambling and in obtaining monies with which to gamble; and, (3) a continuation of gambling involvement despite adverse consequences (Rosenthal & Lesieur, 1992).

Problem gambling is the term most widely used to refer to individuals who experience difficulties with their gambling, although it has been used in a variety of ways. In some situations, its use is limited to those whose gambling-related difficulties are substantial but less severe than those of pathological gamblers. In other situations, it is used to indicate *all* of the patterns of gambling behavior that compromise, disrupt or damage personal, family or vocational pursuits (Cox et al, 1997; Lesieur, 1998). From all of these perspectives, however, pathological gambling can be regarded as one end of a broad continuum of gambling-related problems. Throughout this report, the term is used to refer to the full spectrum of gambling-related difficulties and includes pathological gambling.

From a public health perspective, problem gamblers, as well as those who score even lower on problem gambling screens (sometimes referred to as *at-risk* gamblers) are of as much concern as pathological gamblers because they represent much larger proportions of the population than pathological gamblers alone. Problem gamblers and at-risk gamblers are also of interest because of the possibility that their gambling-related difficulties may become more severe over time. Problem and at-risk gamblers are of further interest because of the likelihood that their gambling can be more easily influenced by changes in social attitudes and public awareness (Castellani, 2000; Shaffer, Hall & Vander Bilt, 1999).

1.2. The Importance of Strategic Planning

There is widespread agreement, internationally, that prevention of problem gambling should be a fundamental principle guiding the regulation and operation of legalized gambling. However, there is no consensus regarding how such measures should be defined or what measures are most effective (Blaszczynski, 2001). In some jurisdictions, including Australia, Canada and Great Britain, governments have started to develop long range plans to address harm reduction and minimization related to gambling in a systematic way. While all of these efforts are in their infancy, there is consensus that a broad range of stakeholders should be consulted, that missions and goals should be established and that measurable criteria of performance are needed. To this list, Hing and Dickerson (2001) add the need for independent evaluation of the effectiveness of different practices.

Blaszczynski, Ladouceur and Shaffer (2004) describe a set of principles that they argue should guide industry operators, health and social service agencies, interested community groups, consumers and governments and their related agencies in the adoption and implementation of problem gambling prevention and harm minimization initiatives. This framework, which they dub the 'Reno Model,' is needed because gambling markets are not yet characterized by socially responsible regulatory efforts with demonstrated effectiveness for targeted groups. Furthermore, many regulatory steps are taken without assessing the potential for these regulations to cause unintended negative effects, both in the targeted population and in the broader population of harm-free recreational gamblers. These authors identify lack of conceptual clarity and an absence of consensus regarding the parameters of problem gambling prevention as the primary barriers to the implementation and evaluation of comprehensive strategies. The 'Reno Model' consists of five principles:

- The key stakeholders will commit to reducing the incidence and ultimately the prevalence of gambling-related harms
- Working collaboratively, the key stakeholders will inform and evaluate public policy aimed at reducing the incidence of gambling-related harms
- Key stakeholders will collaboratively identify short- and long-term priorities thereby establishing an action plan to address these priorities within a recognized time frame
- Key stakeholders will use scientific research to guide the development of public policies. In addition, the gambling industry will use this research as a guide to the development of industry-based strategic policies that will reduce the incidence and prevalence of gambling-related harms
- Once established, the action plan will be monitored and evaluated using scientific methods

The Canadian Province of Manitoba provides an example of the emergence of problem gambling strategic planning. The Manitoba Lotteries Corporation (MLC), which operates the provincial lottery as well as several charitable casinos, has developed a five-year Responsible Gaming Strategic Plan with three major goals. These include: (1) advocating responsible use of MLC products through media, education and awareness campaigns; (2) reducing the potential for harm from use of gambling products through a range of measures including casino advertising guidelines and the introduction of responsible gambling features on electronic gambling

machines; and, (3) promoting the availability of problem gambling services in Manitoba. MLC has established partnerships with the Manitoba Gaming Control Commission, the Addictions Foundation of Manitoba, local governments, suppliers and other stakeholders and has conducted an evaluation of its first public awareness advertising campaign (Manitoba Lotteries Corporation, 2004). Other good examples of the emergence of strategic planning in this area can be found in New Zealand and Oregon.

An essential element in strategic planning is a *gambling monitoring system* to provide policy makers, the gambling industry, health and social service agencies and other stakeholders with a neutral informational database for strategic analysis and decision-making. Internationally, a growing number of governments including Australia, Canada, New Zealand and South Africa, have begun to establish systems to monitor the impacts of legal gambling on citizens and communities over extended periods of time (Volberg, 2004a). However, these efforts are only a few years old and little is known about 'best practices' in this regard.

In our view, a model gambling monitoring system must include three basic elements. The first is an *integrated database* that includes information about gambling participation, expenditures and attitudes, gambling problems and other related data such as helpline calls and availability and effectiveness of services. It is essential that this integrated database be kept up-to-date, theoretically and methodologically, both to reflect changing conceptions of gambling and gambling problems and to incorporate new research data from other studies. The second element is a *basic research effort* that would include a variety of projects generating information to inform both policy analysis and service development. There are several particularly critical basic research needs in the gambling field including longitudinal research on groups of people over time to improve our understanding of how gambling problems develop, studies of help-seeking by problem gamblers and studies of the effectiveness of problem gambling services. There is also a need for studies of the impacts of specific gambling introductions on communities and studies of gambling among vulnerable groups in the population. The third critical element to any such system is a process for *dissemination* so that responses to new developments or information can be made quickly.

1.3. Purpose of Situational Assessments

The purpose of a situational assessment is to identify and assess community needs, resources and capacities, in this case in relation to problem gambling. Situational assessments are useful in guiding the planning, revision and evaluation of health promotion and prevention programs. A situational assessment focuses on factors that may affect the future development of such programs in order to highlight the factors most critical to success and to develop long term objectives to address those factors.

In business settings, situational assessments are a critical component of strategic planning and can be highly structured with many conforming to the 'SLOT' approach. This approach entails examination of the internal strengths and limitations of an organization as well as the external opportunities and threats. In the present context, a situational assessment refers more broadly to

developing a thorough understanding of the availability of problem gambling services in California as well as the need for such services.

1.4. Best Practices vs. Current Practices

It is tempting to assume that whatever is most current in a field, whether it be approaches to research, treatment or prevention, represents the enduring 'best practice' in that field. From a historical perspective, it is important to understand that the evolution of 'best practice' represents a series of developmental steps (Korn & Shaffer, 2004).

This report is intended to provide a factual foundation on which to base the development of a statewide plan to address problem and pathological gambling in California. It is important to note at the outset that this effort is appreciably limited by the dearth of well-designed studies on problem gambling risk and protective factors and the lack of high-level evidence of promising approaches to problem gambling prevention and intervention. The information that we have included here comes largely from studies limited by numerous data and design considerations including small sample sizes, poor response rates and lack of control groups. These considerations make it difficult to determine the effectiveness of these programs or whether they may be successfully replicated in other settings.

1.5. A Brief History of Legal Gambling

Longstanding ambivalence characterizes the history of gambling in the United States, as successive waves of leniency alternated with severe repression and legal prohibition (Rose, 1986). In the early 19th century, the risky and transient society of river towns and steamboats along the lower Mississippi River fostered the emergence of professional gamblers and new games characterized by speed and portability. In the mid-19th century, as newly settled areas sought to emulate more established and respectable communities in the East, professional gamblers became the focus of violent popular justice throughout the Southwest. In the same period, casino gambling flourished on the mining frontier in California. The newly popular card and dice games that had migrated from the South to the West were soon introduced by syndicates to cities in the East (Findlay, 1986). It was not until the end of the 19th century, with the ascendancy of Victorian respectability and the spectacular collapse of the Louisiana Lottery, that casino games and lotteries were outlawed throughout the United States. In the wake of federal legislation intended to eliminate fraudulent games, legal gambling opportunities were heavily restricted throughout the United States and remained so for most of the 20th century (Rose, 1986).

In the mid-1970s, at the beginning of the latest 'wave' of gambling legalization, thirteen states had lotteries, two states (Nevada and New York) had approved off-track wagering, and there were no casinos outside of Nevada (Commission on the Review of the National Policy Toward Gambling, 1976). The gambling industry has grown enormously since then. By 1998, it was possible to make a legal wager of some sort in every state except Utah and Hawaii; thirty-seven states had lotteries, twenty-eight states had casinos and twenty-two had off-track betting (National Gambling Impact Study Commission, 1999). Just as telling as the expansion of

gambling into new jurisdictions was the growth in gambling revenues. Between 1975 and 1999, revenues from legal gambling in the United States grew by nearly 1,800 percent from $3 billion to $58 billion (Christiansen, 2000; Kallick et al, 1976). Americans now spend more on legal gambling than they spend on movie tickets, recorded music, theme parks, spectator sports and video games, combined, on an annual basis (Christiansen & Sinclair, 2001).

Much of the economic and political initiative for the legalization of lotteries in the 1970s and 1980s grew out of the reluctance of state legislatures to raise taxes. In an effort to make lottery gambling more palatable to voters, measures were often taken to earmark funds from these operations for specific purposes: education, property tax relief, and services for seniors (Clotfelter & Cook, 1989; Nibert, 2000). The forces driving the legalization of casino gambling are rather different from those driving the legalization of lotteries. In addition to rising state and local revenue needs, casino legalization was powered by the passage of the Indian Gaming Regulatory Act, in 1988, and by economic recession in the Midwestern states (Dombrink & Thompson, 1990; Eadington, 1998). Another important factor in this process of expansion was the shift in ownership and control of casinos and casino companies, from shady, 'mob' businesses to publicly owned, publicly traded corporations (Johnston, 1992).

The phenomenal growth of legal gambling has been largely fueled by the development of the lottery and casino industries, at the expense of older, more mature industries like horse race wagering and charitable gambling (Volberg, Toce & Gerstein, 1999). The introduction of lottery and casino gambling in new jurisdictions tends to follow a predictable trajectory with high initial participation followed by stabilization and then by the introduction of new games or increased advertising to revive interest and increase expenditures. Another common pattern is the seeking of regulatory concessions by established operators to maintain a 'level playing field' in the face of new competition (Rose, 1999). The practical impact of all of these actions has been to further expand the availability of gambling (Volberg, 2001).

Gambling legalization in the 1980s and 1990s began with promises of tax revenues and, later, jobs and economic development. In an era of federal budget cuts and economic re-structuring, state and local governments found these promises very appealing, as the rapid spread of lotteries, and later, casino gambling across the United States attests. In the opening years of the 21st century, economic imperatives continue driving governments to expand legal gambling opportunities.

1.5.1. Legal Gambling in California

Legal gambling in California includes pari-mutuel[1] horse race wagering, a state lottery, commercial card rooms, tribal casinos, and charitable gambling. Other types of gambling available to California residents include casino gambling in Nevada and other out-of-state locations and gambling on cruise ships. Charitable gambling, primarily small-stakes bingo, is regulated by local governments and represents the smallest segment of the California gambling

[1] In contrast to 'fixed odds' betting or bookmaking, 'pari-mutuel' wagering involves a betting pool in which all those who place winning bets share the total amount of the pool minus a percentage for the management (Abt, Smith & Christiansen, 1985).

industry. The gambling industry in California has grown exponentially over the last twenty years with the most substantial growth associated with expansion of the tribal casino sector. Gambling revenues in California have risen five-fold since 1997, from $2.5 billion to an estimated $13 billion in 2003 (Associated Press, 2003; Dunstan, 1997).

Horse Race Wagering. Horse racing was legalized in California in 1933 with pari-mutuel wagering on races regulated by the California Horse Racing Board. The board consists of seven members appointed by the Governor. Horse race wagering takes place at six privately owned race tracks, nine racing fairs and eighteen simulcast facilities located throughout the state (Dunstan, 1997; Hill, 1998).

Simulcast wagering on intrastate and interstate races has been permitted in California since 1995 and the amounts wagered at simulcast facilities far exceed the amounts wagered at the tracks or fairs. The most recent figures from the California Horse Racing Board (2003) indicate that only 18% of the $4.2 billion handled by the California pari-mutuel system was wagered by bettors at California racetracks where live races were being run. Another 40% of handle[2] was generated by bettors at simulcast facilities located at California fairgrounds, tribal casinos, and other off-track locations around the state. The remaining 41% was wagered at more than 100 out-of-state locations throughout the United States and in foreign countries. Advanced Deposit Wagering (ADW), which allows bettors to deposit funds into accounts and place wagers by telephone or over the Internet (often while watching the races on television), started in 2002 and accounted for 6% of handle in 2002-2003.

Lottery. The California Lottery was approved by voters in 1984 and became operational in 1985 with a minimum of 34% of proceeds earmarked for education. A five-member Lottery Commission, appointed by the Governor and confirmed by the Senate, oversees lottery operations. California lottery tickets are sold in over 18,000 locations around the state. Lottery games include Super Lotto, a large jackpot game, Scratchers or instant tickets, two daily numbers games and a five-minute keno game that is broadcast on monitors in convenience stores and other locations throughout the state. In FY 2002-2003, the Lottery sold $2.8 billion in tickets with the instant games accounting for 44% of revenues and the large jackpot game accounting for another 40% of revenues. In the same fiscal year, just over $1 billion went to supplement public education funds around the state (California Lottery, 2003).

Card Rooms. Although a few other states permit card room gambling, California is unique in the number and size of these establishments. Card rooms have existed in California since before statehood and most were small operations with fewer than ten tables. In the mid-1990s, when the industry was at its peak, there were 220 card rooms in California (Dunstan, 1997). There are presently less than 100 card rooms in California (California Gambling Control Commission, 2004). The major card room markets are Southern California and the San Francisco Bay Area. In the Bay Area, there are a substantial number of card rooms with 20 to 40 tables. Several of the card rooms in Southern California, including the Commerce Casino, Hollywood Park Casino and the Bicycle Casino, are much larger with over 100 tables. Most of the larger card rooms

[2] In the pari-mutuel industry, 'handle' represents the amount retained by operators after all wagers are paid and is equivalent to gross revenues in other business operations (Abt, Smith & Christiansen, 1985).

were built after 1979 when Proposition 13 limited cities' ability to tax and left them looking for new revenue sources (Associated Press, 2003).

Local governments have joint responsibility with the Department of Justice's Division of Gambling Control for regulating card rooms. Local governments are responsible for setting hours of operation, number of tables and wagering limits while the Division is responsible for investigating the qualifications of individuals who apply for state gaming licenses. The Division also monitors licensees to ensure that they are operating in compliance with the state Gambling Control Act (Office of the Attorney General, 2004). Card rooms generally pay between 5% and 15% of gross revenues to their local city governments in gambling privilege taxes. In some cases, a significant proportion of these cities' total budgets – between one third and one half – are derived from card room tax revenues with concomitant challenges to effective regulation (Dunstan, 1997).

Card rooms in California offer a variety of non-house-banked games, although the introduction of fast-paced Asian games has changed the character of these venues in recent years. It is estimated that California card rooms generate approximately $1 billion in annual revenues (Associated Press, 2003). The very recent wave of popularity of poker due to televised shows such as the *World Series of Poker* as well as the proliferation of online poker sites is likely to cause further dramatic changes in the character of California's card rooms.

Tribal Casinos. Between 1999 and 2003, 63 tribes signed tribal-state gambling compacts with the State of California (California Gambling Control Commission, 2004). Under these compacts, each tribe was permitted to operate up to two facilities and up to 2,000 slot machines. The tribes were also permitted to offer house-banked card games such as poker and blackjack although they were prohibited from offering other Nevada-style games such as craps or roulette. There are presently 53 tribal casinos with more than 54,000 slot machines operating throughout California. As sovereign nations, the tribes are largely exempt from state and local taxes and laws. It is estimated that tribal gambling in California generates $5 billion per year (Associated Press, 2003). Although the tribes do not pay taxes, the state does collect payments of approximately $100 million annually for distribution to other tribes that do not operate gambling facilities or that operate facilities with fewer than 350 slot machines. A small proportion of these funds (3%) is directed toward developing services for problem gamblers in California.

In the wake of the establishment of the tribal-state compacts, the California Gambling Control Commission was created. This five-member body is appointed by the Governor and has jurisdiction over the operation, concentration and supervision of gambling establishments (including card rooms as well as tribal casinos) in California. The Commission is responsible for setting policy, establishing regulations, issuing licenses and adjudicating license denials. The Commission also has authority to administer the gaming device license process and to oversee the collection of license fees and the allocation of gaming devices among California's tribes. With regard to tribal gambling, the separate Division of Gambling Control is responsible for conducting investigations of individuals who apply for state gaming licenses and monitoring the slot machines operated by the tribes to ensure that they meet established technical standards (Office of the Attorney General, 2004). As with California card rooms, the Gambling Control Commission and the Division of Gambling Control are responsible for establishing minimum

standards and ensuring compliance with these standards while tribal governments are responsible for local and on-site enforcement.

In the summer of 2004, five tribes negotiated amendments to their compacts. Under the new agreements, there would be no limits on the number of slot machines that these five tribes may operate. In exchange, the tribes agreed to make an immediate payment of $1 billion and annual payments of between $150 million and $250 million to the state. Unlike the payments required by the 1999 compacts, the state would not be constrained to use these payments for particular purposes (Broder, 2004; Smith, 2004).

1.5.2. Looking to the Future

There are several emerging trends that will influence the evolution of legal gambling during the first decades of the 21st century. These include the growing legitimacy of legal gambling, the spread of gambling to non-gambling settings, the intersection of electronic technologies used in financial markets and gambling venues and the looming impacts of the Internet on all forms of gambling. All of these trends make it likely that legal, commercial gambling will be a major feature of the economic, social and cultural landscape for years to come.

Increased availability means that legal gambling now reaches into society in ways that contribute powerfully to its legitimacy and acceptance. Gambling operations and oversight have become part of the routine processes of government. Commissions have been established, revenues distributed, and industry, worker and customer constituencies have developed. State and local governments have become increasingly dependent on gambling revenues to fund essential services. So have, to varying degrees, other sectors including nonprofit organizations, churches, the mass media and, more recently, universities and specialist problem gambling agencies. Non-gambling occupations and businesses – accountants, lawyers, architects, public relations and advertising and security services – have expanded their activities to provide for the gambling industry. Retail operators of various kinds, such as restaurants, hotels and social clubs, have come to depend on revenues from gambling to operate profitably. Finally, gambling industry executives and political action committees have become key sources of funding for political parties, elections, and ballot initiatives.

Beyond expansion in the availability of casinos and lotteries, the most notable change in Americans' access to gambling in the last twenty years has been a significant shift in the availability of gambling from gambling-specific venues to a diversity of social settings not previously associated with gambling (e.g., bars, restaurants, hotels, social clubs, grocery and convenience stores). An associated development is the growth of gambling on the Internet, bringing casino gambling, sports betting and lottery play directly into homes and workplaces. While the federal government has made some attempts to control access to Internet gambling, it is unlikely that such efforts will be successful, particularly as encryption technology and the security of financial transactions improve.

Another, related trend is the intersection of new gambling technologies with financial institutions and technologies. All of the sectors of the gambling industry are developing and enhancing

management systems that enable player tracking and speed financial transactions (Bivins & Hahnke, 1998). These technological developments have facilitated new gambling modes, such as telephone and satellite wagering on sports events and cashless gambling with debit or credit cards on slot machines. Major providers of financial services in casinos are installing multifunction Automated Cash Machines (described as 'like an ATM on steroids') and are exploring the feasibility of installing debit card transaction technology directly on slot machines (Parets, 2004).

1.6. Overview of Report

The overall aim of this report is to assist the Office of Problem Gambling in implementing the provisions of Assembly Bill (AB) 673 by providing OPG with information on the current status of problem gambling-related research, programs and services in California as well as nationally and internationally.

The main body of this report reviews current practices in problem gambling services at the international, national and state levels as well as within the State of California. The first section provides an overview of public education and awareness campaigns, training programs for health care professionals and gambling industry employees, problem gambling helplines, problem gambling treatment, and research and evaluation at the macro-level. This is followed by an overview of these same services as they have been provided in California over the past five years. We then present a range of possible actions for consideration by the State of California.

2. METHODOLOGY

Two distinct sets of tasks were identified as necessary to obtain an in-depth and thorough analysis of the current status of problem gambling research, programs and services in California and internationally. One set of tasks included comprehensive reviews of existing research on problem gambling, current practices in problem gambling prevention and treatment and assessment of problem gambling services in other jurisdictions that might be appropriate for use in California. A separate set of tasks included identification and assessment of the extent and quality of problem gambling services within the State of California, including public awareness and public education campaigns and resources, training programs for health professionals, educators and law enforcement personnel as well as for gambling industry personnel, crisis management and referral sources, and the delivery of treatment services for problem gamblers and their families.

To meet the needs of the Office of Problem Gambling, the authors completed separate systematic reviews of existing research literature on problem gambling epidemiology and etiology as well as current practices in problem gambling prevention and treatment and drafted extensive reports on their findings (Rosenthal & Fong, 2004; Rugle, 2004a, 2004b; Volberg, 2004c).[3] Separately, under contract with and guidance from the California Council on Problem Gambling, Bensinger DuPont & Associates carried out surveys to identify the extent and quality of problem gambling services in California. Data from the surveys and the literature reviews form the basis for this report on current practices in problem gambling services internationally and in California as well as for suggestions to the State.

2.1. Literature Reviews

Published material was collected through online searches of electronic bibliographic indexes and from specialist libraries, including the authors' personal collections. 'Grey literature,' consisting of works not widely available to the general public and including many government reports and conference presentations, was obtained through searches of the authors' personal collections, communications with professional and informal networks and via online searches of specialist libraries.

The online searches resulted in the identification of varying numbers of articles, sometimes numbering several hundred. A full list of titles and/or abstracts was obtained from each search and relevant full text publications were accessed electronically and reviewed. Numerous gambling-related organizations and government departments have websites that include searchable databases and/or libraries, or that detail gambling-related publications and reports. Approximately 30 websites were searched for relevant literature. Any material that appeared to be relevant was downloaded and reviewed.

[3] Copies of these reports are available from the authors.

Grey literature was especially important in identifying alternative and innovative approaches to problem gambling prevention and treatment. Each of the authors contacted specific individuals in their networks of professional colleagues within the gambling field to request materials. Additionally, a "request for help" was posted to the international Email discussion group for problem gambling professionals, *GamblingIssuesInternational*.[4] This forum has nearly 400 members from 17 countries and includes researchers, clinicians, educators, policy makers and others. The posting to the discussion group resulted in several responses leading to published literature and conference presentations.

2.2. Assessing Services for Problem Gamblers in California

To assess the extent and quality of problem gambling services in California, the authors sought information from a representative sample of individuals, organizations and agencies throughout the state via telephone and Email surveys carried out by Bensinger, DuPont & Associates. Additional information was sought from the California Council on Problem Gambling and other individuals and organizations known to have conducted training or provided services within the state over the past five years.

2.2.1. Surveys of California Providers

Four surveys were carried out by Bensinger, DuPont & Associates (BDA) to assess the extent and quality of problem gambling services in California. The questionnaires for these surveys focused on treatment and crisis services, public education and awareness, and law enforcement and gambling industry experiences with problem gambling service provision. The questionnaires targeted government authorities, alcohol/drug and mental health providers, educators, law enforcement officials and gambling industry officials. Each questionnaire included items appropriate to these target audiences and topics.

Initially, two methods for distributing these surveys were planned, including individual Email solicitation and telephone interviews. However, significant difficulties were encountered in obtaining individual Email addresses from many organizations and associations. In response, a third approach – requesting organizations and associations to distribute questionnaires to their membership or constituency groups – was adopted. The survey questionnaires were approved by the Office of Problem Gambling and the surveys were fielded on August 4, 2004. Responses were accepted up to September 6, 2004.

Approximately 89,000 individuals were represented by associations, state agencies and other organizations that were asked to distribute Email solicitations to their respective memberships/providers. An additional 1,624 individual Email addresses were extracted from directories and listings of other organizations and agencies. The different recipient groups (e.g., individuals and organizations) received Email solicitations containing customized messages

[4] *GamblingIssuesInternational (GII)* is a Yahoo Groups forum restricted to professionals who work with gambling issues or problems. The forum is maintained and moderated by the Centre for Addiction and Mental Health in Ontario, Canada, and enrollment requires approval by the list moderator.

developed for each group and its corresponding survey, including links to the Web pages where the survey instruments were located. Respondents completed the survey online and the responses were validated to ensure that users answered all required aspects of each question. When a survey was successfully submitted, the answers were automatically written to a database designed specifically for that survey.

To obtain information from a representative sample of California programs and agencies, Dr. Richard Sherman, a statistician at BDA, developed a sampling strategy based on statewide service directories specific to each of the resource organization types of interest. Within each sampling frame, a random sample of organizations was selected and attempts were made to interview representatives of those organizations by telephone. Sample sizes within each sampling frame were established to yield estimates with a margin of error of ±5% with a 95% confidence interval.

A total of 794 respondents completed the survey, either by Email (n=349) or over the telephone with a BDA interviewer (n=445). Responses from service organizations, including crisis, treatment and public awareness, represent 64% of the achieved sample and far outnumber responses from other sectors. Responses from law enforcement represent 16% of the sample; educational respondents represent 13% of the sample; and the gambling industry represents 8% of the sample.

Table 1 presents information about the sampling frame and response rates for the telephone survey target audiences as well as for the telephone survey sample as a whole. The overall response rate of 41% for the telephone component is acceptable while the response rate of 66% among service organization providers who were interviewed by telephone is excellent, particularly in view of the limited period during which the survey was in the field. Although the number of responses to the Email component of the survey is much lower than originally proposed, the response rates to the telephone survey indicate that these data are nevertheless representative of experiences of the target audiences with problem gambling services in California.

Table 1: Telephone Survey Sample Characteristics

	Sampling Frame	Proposed Sample Size	Achieved Sample	Completion Rate
Service Organizations*	2,505	355	236	66.4%
Educational	14,837	375	100	42.5%
Law Enforcement	506	220	52	26.7%
Gaming Industry	161	134	57	23.6%
Total	18,009	1,084	445	41.1%

* Includes crisis, treatment and public awareness organizations and agencies.

BDA worked closely with the authors to assure that the data from the surveys were of the highest possible quality. Telephone interviewers were randomly monitored for technique and adherence to established procedures. BDA's project director, Ms. Marie Apke, maintained regular communication with the authors while the surveys were underway. Respondent characteristics and response rates were monitored and reported on a regular basis. BDA transmitted the survey

data in Excel format on September 7, 2004 and the files were converted into Statistical Package for the Social Sciences (SPSS) format for analysis.

3. CURRENT PRACTICES IN PROBLEM GAMBLING SERVICES

Prevention is any activity that is taken to stop or interrupt a course of action or events (Merriam Webster, 2004). With specific reference to behavioral medicine, prevention is generally subdivided into universal, selective and indicated interventions (Dorfman, 2000). Compared with other addictive disorders, the boundaries between these different types of intervention in relation to problem gambling are quite 'fuzzy' and shade more quickly into what is regarded as treatment. While AB 673 clearly identifies prevention as the highest priority in addressing problem gambling in California, the language of the bill—which specifies funding of a helpline as well as training of health care professionals—clearly recognizes the importance of treatment in addressing problem gambling.

We have organized this and the following two sections of the report to reflect our views on the immediate priorities for developing problem gambling services in California. These priorities include (1) research on problem gambling prevalence, risk factors and community attitudes; (2) advocacy with state agencies to implement public policies to minimize gambling problems in communities; (3) increasing the availability of help for problem gamblers throughout the state through training and technical assistance; and, (4) evaluating the effectiveness of these measures in order to be able to improve these services over time.

Readers will notice that the materials reviewed throughout this report reflect a strong 'Eurocentric' bias. Despite concerted efforts, the authors found little evidence for culturally diverse approaches to the prevention or treatment of gambling problems. While evidence almost certainly exists for the efficacy of culturally appropriate approaches taken in relation to other disorders, constraints on time and resources precluded our consideration of this much broader literature.

3.1. The Prevalence of Gambling Problems in the Community

Epidemiology is the study of the distribution of physical and mental disorders within populations. Epidemiological research has played a vital role in identifying factors that determine or influence the development of disease and other health-related events. In this capacity, epidemiological research is a critical tool in public health and is central in the design of effective prevention programs and in the planning of treatment services.

Governments began funding services for individuals with gambling problems in the 1980s. As a first step toward establishing these services, policy makers sought information about the number of people who might seek help for their gambling problems and what they looked like. In responding to these questions, researchers adopted methods from the field of psychiatric epidemiology to investigate the prevalence of gambling problems in the general population.

Early conceptualizations of problem gambling were based primarily on clinical experience and expert group consensus (Govoni, Frisch & Stinchfield, 2001). The few tools that were developed during this period to identify problem gamblers reflect the strong psychological

perspective that has largely informed problem gambling research. Recent emergence of a public health approach to gambling problems, particularly evident in Australia and Canada, has led to a focus on 'harm' as the foundation of several new measures of problem gambling (Battersby et al, 2002). Researchers in these countries have argued that a focus on harm is more appropriate for determining the socioeconomic impacts of gambling in the community and is also useful in screening for individuals who are, or may be, at risk for developing into problem gamblers (Thomas, Jackson & Blaszczynski, 2003).

When the results of new problem gambling prevalence studies are announced, policy makers and the media generally focus their attention on a single number—the overall rate of gambling problems in the general population. Comparisons are made with prevalence rates in other jurisdictions and questions are asked about the number of problem gamblers that this overall rate represents and about how many of these individuals may seek treatment if specialized services are made available. While these are important reasons for conducting prevalence research, there is much more to be learned by looking beyond the overall prevalence rate.

The next three sections present information about the additional value provided by problem gambling prevalence research. Important information relevant to designing effective problem gambling interventions includes questions about the relationship between increases in the availability of gambling opportunities and increases in rates of problem gambling in the general population, the possible impact of problem gambling services in ameliorating gambling problems in the general population, and the changing demographics of problem gamblers in response to the introduction of specific *types* of gambling.

3.1.1. Do Increases in Gambling Availability Lead to Increases in Problem Gambling?

Some forms of gambling have a particularly strong association with problem gambling, most notably those that are continuous in nature and involve an element of skill or perceived skill (e.g., electronic gambling machines[5] and casino table games). General population prevalence studies in a number of countries have found that people with preferences for, frequent involvement in, and substantial expenditures on, these forms of gambling have a high probability of being a problem gambler. For example, while it is generally estimated that between 2% and 5% of the adult population are problem or pathological gamblers in jurisdictions with 'mature' gambling markets, prevalence rates among regular machine players and track bettors can be as high as 25% (Abbott & Volberg, 2000; Gerstein et al, 1999; Productivity Commission, 1999; Schrans et al, 2000; Smith & Wynne, 2004).

One hotly debated issue in the gambling studies field, as well as in legislative circles and the gambling industry, is the question of whether and how closely increases in opportunities to

[5] 'Electronic gambling machines' are gambling devices that offer a variety of games. Although an array of terms are used to refer to these machines, there are only three major categories of electronic gambling machines (i.e., slot machines, video slot machines and video poker machines). Inexpensive to operate and extremely profitable, electronic gambling machines can be found at casinos and racetracks as well as at numerous formerly non-gambling specific venues such as bars, restaurants, convenience stores and social clubs in many jurisdictions (Turner & Horbay, 2004).

gamble are linked to increases in the prevalence of problem gambling. Results from a range of epidemiological studies support the existence of a link between the availability of legal opportunities to gamble and higher rates of problem and pathological gambling.

A systematic review of North American prevalence surveys carried out between 1975 and 1996 concluded that the prevalence of problem gambling had increased significantly among adults in the general population (Shaffer et al, 1999). Past year prevalence rates of pathological gambling among surveys conducted prior to 1993 averaged 0.8%; rates for post 1993 surveys averaged 1.3%. No changes were evident for youth, college students and institutional populations, groups in the population with already high rates of problem gambling.

Recently, a statewide survey completed in Nevada found that the prevalence of pathological gambling in that state was substantially higher than in the United States as a whole (Volberg, 2002). Shaffer, LaBrie and LaPlante (2004) examined county level prevalence estimates from the survey in Nevada in relation to casino availability and found that the four counties with the greatest access to casinos had the highest problem gambling rates and the four with the least availability had the lowest rates.

Two U.S. national surveys also found a relationship between the availability of casino gambling and problem gambling prevalence. A survey carried out in 1998 for the National Gambling Impact Study Commission found that location of a casino within 50 miles (versus 50 to 250 miles) was associated with approximately double the rate of pathological gambling (Gerstein et al, 1999). Separately, Welte et al (2004) used census tract data and geographic information to determine that the location of a casino within *ten* miles of an individual's home is independently associated with a 90% increase in the odds of being a problem or pathological gambler.

Finally, a relationship between casino proximity and gambling problems was found in the 1999 New Zealand national survey (Abbott & Volberg, 2000). In that study, although the overall prevalence of problem and pathological gambling declined from 1991, residence in the cities of Auckland and Christchurch, where large urban casinos opened in the interval between the two studies, emerged as a strong predictor of gambling problems even when controlling for other factors associated with this disorder.

3.1.2. The Possible Impact of Problem Gambling Services

From a public health perspective, it is conceivable that as people gain experience with new forms of gambling, adaptations will be made that enable problems to be more readily countered or contained. Increased public awareness of problem gambling and its early warning signs, the development of informal social controls and the expansion of treatment and self-help options, may play a part in this process. Under this more optimistic scenario, the proposed relationship between rising gambling participation and increasing problems may be attenuated, or possibly, reversed (Abbott et al, 2004b).

Evidence for such attenuation comes from recent 'replication' surveys carried out in four U.S. jurisdictions (Volberg, 2004b). In all of these jurisdictions, already substantial legal gambling

opportunities increased further between baseline and replication. New tribal casinos opened in all of the states (two each in Montana and Oregon, five in North Dakota and ten in Washington State). In Washington State, commercial card rooms were allowed to greatly increase the maximum number of tables per establishment. Two states (Montana and Oregon) permitted electronic gambling machines to operate although the density of machines was eight times greater in Montana than in Oregon. North Dakota was the only state without a lottery but had over 300 small charitable gambling operations in bars and restaurants.

Despite increases in gambling availability and expenditure in the four states, weekly gambling participation dropped across the board. With respect to problem gambling, significant increases in prevalence were found in Montana and North Dakota. Significant decreases were found in Oregon and Washington State. The major difference between states with increased and decreased gambling problems was the availability of services for problem gamblers. Further analysis established that the impact of the availability of services was strongest among past year non-casino gambling machine players and weakest among past year lottery players. Interestingly, problem gambling prevalence declined among past year casino patrons regardless of whether services were available or not. It is possible that this was due to 'responsible gaming' initiatives undertaken by the tribal casinos in all of these states.

3.1.3. The Changing Face of Problem Gambling

Early adult general population surveys conducted in the United States, Canada, Australia, Spain and New Zealand found that male gender, age under 30 years, low income and single marital status were almost universally risk factors for problem gambling. Low occupational status, less formal education and non-Caucasian ethnicity were additional risk factors in a number of studies. Residence in large cities was a factor in some. In most studies where they were asked, problem gamblers reported starting gambling at a younger age than non-problem gamblers. Youth surveys in North America found people in their mid to late teenage years had higher prevalence rates than adults.

Both of the recent U.S. national surveys found higher rates of problem gambling among men, non-Caucasians and people on low incomes. Gerstein et al (1999) found young people continued to have a higher rate. Welte, et al., (2001), however, did not find significant age differences and, although males had a higher rate of problem gambling, they did not differ with respect to more severe pathological gambling. Some statewide studies (e.g., Oregon and Montana) have also found male and female rates no longer differ significantly (Volberg, 2003b). Both states have widespread access to electronic gambling machines which appear to be particularly attractive to women. Similar findings come from Australia and New Zealand.

In some jurisdictions there has been a marked increase in the proportion of women problem gamblers while in others (e.g., Washington State and North Dakota) the male proportion has expanded. Washington State experienced a substantial increase in the availability of commercial card room gambling, which is favored by men. In these two states, as well as in Montana, proportions of non-Caucasian problem gamblers have also increased significantly. Many are Native Americans. These are jurisdictions that have had substantial growth in the number of

tribal casinos and 'casino-style' charitable gambling operations. From these studies, it appears that change in the availability of particular *types* of gambling is instrumental in altering the sociodemographic characteristics of problem gamblers (Volberg, 2004b).

While research generally supports the notion that problem gambling prevalence is associated with greater exposure to high risk gambling activities, there are some groups in the population with interesting 'bimodal' gambling patterns. In comparison to other groups, they contain large proportions of people who do not gamble or gamble infrequently, as well as moderate to large proportions of frequent, high spending gamblers. In other words, overall they are less likely to gamble, but those who do, gamble more heavily. Groups in this category include some ethnic minorities and recent immigrant groups (e.g., African Americans in the U.S., Pacific Islanders in New Zealand and Eastern European immigrants in Sweden). These appear to be sectors of the population in the early stages of introduction to high risk forms of gambling. Some of these groups have exceedingly high levels of problem gambling (Abbott, 2001; Abbott et al, 2004a).

Although there are significant gaps in knowledge about problem gambling, what is known has some relevance to gambling policy and the development of interventions to prevent problems and assist problem gamblers. For example, legislation and policies that significantly enhance access to electronic gambling machines, casino table games and other continuous gambling forms can be expected to generate increases in problem gambling. Risk profiles are also likely to change, with disproportionate increases among women and some other population sectors including ethnic and new immigrant minorities. Problem gambling may also move 'up market,' becoming more evenly distributed throughout socioeconomic strata and age groups.

While problem gambling prevalence is likely to rise in the wake of gambling expansion, research suggests it will eventually level out, even when accessibility continues to increase (Abbott, 2001). However, rates may rise three or four-fold before this occurs and even then, active measures may be required to achieve stabilization. Raising public awareness of the risks of excessive gambling, expanding services for problem gamblers and strengthening regulatory, industry and public health harm reduction measures can apparently counteract some adverse effects from increased availability. What is not known is how quickly such efforts can have a significant impact and whether or not they can prevent increases in the prevalence of problem gambling entirely.

3.1.4. Problem Gambling Among Youth

In the wake of the rapid legalization of lottery and casino gambling, an entire generation of adolescents and young adults has grown up in a society that not only condones, but encourages, gambling. Although gambling is generally not on the 'radar' when we consider the array of risks that adolescents confront as they move towards adulthood, there are many reasons to pay attention to the gambling done by adolescents (Volberg, 2003c).

There is no doubt that adolescents gamble and that some adolescents experience difficulties related to their gambling involvement. While rates vary from one jurisdiction to another, studies show that up to 80% of youth aged 12 to 17 have gambled in the last 12 months (Gupta & Derevensky,

2000). The most popular types of gambling among adolescents in North America are cards, dice and board games played with family and friends, private wagers on games of personal skill with friends, sports betting, with peers as well as bookmakers, and bingo.

All of the available research shows that male adolescents tend to gamble earlier, gamble on more games, gamble more often, spend more time and money on gambling, and experience more gambling-related problems than female adolescents. Male adolescents are more likely to participate in 'skill-based' games while female adolescents are more likely to participate in gambling activities with a large 'luck' component. In a recent review of the literature, Stinchfield and Winters (1998) make several additional points about youth gambling. They note that most youths have gambled at some time and many have played a game that is legal for adults; that older adolescents and minority youth tend to be most heavily involved in gambling; that many youths start gambling at a remarkably early age; and that youth gambling is related to parental gambling.

Adolescents consistently show elevated rates of problem gambling compared to adults in the general population. Derevensky and Gupta (2000) estimate that between 4% and 8% of adolescents report very serious gambling problems and another 10% to 15% of adolescents are at risk for developing serious gambling problems. Other estimates of the prevalence of adolescent problem or pathological gambling rates range between 1% and 9%, with a median of 6% (National Research Council, 1999; Shaffer, Hall & Vander Bilt, 1999).

As with adults, there is evidence that problem gambling among adolescents is correlated with a range of 'fellow travelers' (Jacobs, 2000). These include high rates of tobacco, alcohol and marijuana use, high levels of parental gambling and parental gambling problems, illegal activities, poor school performance, truancy, and deep feelings of unhappiness, anxiety and depression.

There are many reasons to pay attention to the gambling done by adolescents. Research with adults has shown that individuals with severe gambling problems begin gambling much earlier in life than people without such problems. Another reason for concern is that children are most likely to be introduced to different types of gambling by members of their immediate family. A third reason for concern is that gambling often co-occurs with other risky behaviors and mental health problems and, if unaddressed, may affect adolescents' success in overcoming other difficulties in their lives. Finally, although access to most legal forms of gambling is age-restricted, there is a great deal of evidence suggesting that large numbers of high school and underage college students are able to gamble in casinos, buy lottery tickets and place bets on horse races.

Adolescent gamblers are a particularly vulnerable group in terms of the future development of pathological gambling. Their propensity to display the full clinical disorder is likely to be affected by a variety of risk factors and by the offsetting influence of protective factors as well as efforts at prevention and treatment. It remains to be seen whether youth gambling will garner the attention it deserves as one of an array of behaviors with which adolescents experiment as they grow towards adulthood (Volberg, 2003c).

3.2. Risk Factors for Problem Gambling

A recent trend in the behavioral sciences has been a convergence of biological, psychological, and social theories into a *biopsychosocial* perspective that attempts to explain psychiatric conditions (Engel, 1980). From this perspective, behavioral illnesses are caused by a combination of risk factors from three separate domains, including disturbances in brain function, altered psychological processes and social factors.

In this section of the report, we summarize the scientific evidence on the biological, psychological and social risk factors that contribute to the development of pathological gambling. As is the case with many other psychiatric disorders, current evidence suggests that there is a combination of risk factors that contribute to pathological gambling. Understanding of these risk factors serves to focus on areas in prevention, treatment and early intervention where efforts may be most effectively and efficiently concentrated. A clearer understanding of the risk factors associated with pathological gambling can also help direct public health policies in relation to legal gambling.

3.2.1. Biological Factors

Understanding of substance use disorders is built on a solid foundation of animal research and established clinical typologies. Investigating the biological causes of pathological gambling is uniquely challenging because there are no consistent animal models and because there are likely subtypes of pathological gambling that may or may not share certain biological characteristics. Nevertheless, research into the biological causes of pathological gambling is important, not least because, with no neurotoxic substances involved, this disorder serves as a natural model of addictive behaviors.

Genetic Contribution. Genetic studies are important in understanding psychiatric illnesses because they help prove that these disorders are biological diseases and not simply a matter of excessive appetites or immoral behavior. There are several approaches to identifying the impact of genetics on pathological gambling, including family studies to determine the heritability of the disorder; twin studies to tease out genetic versus environmental influences, and studies that focus on differences in genetic factors of pathological and non-pathological gamblers.

Family studies have found high rates of pathological gambling among family members of pathological gamblers as well as among substance dependent patients (Gambino et al, 1993; Lesieur, 1988). A recent meta-analysis of 28 family studies examining pathological gambling found a relatively weak effect overall although a stronger familial effect appears to hold for those with more severe gambling problems (Walters, 2001). This is similar to findings related to alcohol dependence, suggesting a parallel process and supporting the notion that a small genetic effect can have a powerful impact on behavior when exposed to an environment that allows genetic vulnerabilities to be expressed in a clinically significant manner.

Twin studies are considered more powerful than family studies because both genetic and environmental impacts on the heritability of disorders are incorporated. If a disorder has a true

genetic component, monozygotic (identical) twins will have a higher frequency of the disorder compared to dizygotic (fraternal) twins who will, in turn, have a higher frequency of the disorder than other first-degree relatives or the general population. The largest twin study of pathological gambling, based on the Vietnam Era Twin Registry, found that this disorder was as heritable as alcohol dependence and that genetic factors were the predominant contributor to familial transmission of pathological gambling (Slutske et al, 2000, 2001). In a smaller study, heritability explained 'high action' gambling in male twins but not 'low action' gambling (Winters, 1999).

Overall, genetic studies of pathological gambling support the notion that there are clinically significant, inheritable risk factors for pathological gambling. These factors may determine one's initial emotional response to gambling or code for a predisposition to impulsivity/addictive behaviors. They may also be responsible for an inability to control behavior or an inability to adapt and learn from losing.

Neurotransmitter Functioning. Neurobiological research has identified genetic differences between pathological gamblers and controls in the dopamine, serotonin and norepinephrine systems. Several studies have found differences between pathological gamblers and controls in dopamine receptor genes and in serotonin transporter genes, suggesting that the disorder may be associated with deficiencies in the brain's reward systems (Comings et al, 2001; Ibanez et al, 2000, 2003; Perez et al, 1999).

Recent advances in neuroimaging techniques have allowed researchers to identify abnormalities in areas of the brain that control decision-making, reward processing and information processing in pathological gamblers similar to those among persons with substance use disorders (Goudriaan et al, 2004; Potenza et al, 2003; Potenza & Winters, 2003). Pathological gamblers have been shown to have alterations in levels of the dopamine, serotonin and norepinephrine systems, all implicated in the neurobiological roots of impulsivity (Chambers & Potenza, 2003; Potenza, 2001).

Serotonin has been implicated in the regulation of impulsivity and compulsivity, norepinephrine in the mediation of arousal and novelty seeking, and dopamine in reward and reward dependency. Some researchers believe that all three neurotransmitters are involved in pathological gambling, but at different stages of the gambling cycle. Anticipatory arousal may be linked to the noradrenergic system, the 'high' of the actual gambling episode may be associated with the serotonergic system, and difficulties extinguishing the behavior may be under the aegis of the dopaminergic system (Rosenthal & Fong, 2004).

While these results are important, a great deal more work is needed to investigate the role of neurotransmitters in the development and maintenance of pathological gambling. As such work proceeds, it will be important to include larger samples as well as paying greater attention to racial composition and subtypes of problem gamblers, in order to clarify the relationship between these genetic risk factors and the precise behaviors they may encode.

3.2.2. Psychological Factors

Psychological factors determine how people interact with the environment and with others and how they view themselves and the world. Personality traits, ways in which people manage stressful events, and comorbid psychiatric disorders are all important psychological factors related to the development of pathological gambling.

Comorbidity. Like other addictive disorders, pathological gamblers have much higher rates of co-occurring psychiatric conditions and substance use disorders than are found in the general population. Rates of these disorders are particularly high among pathological gamblers, both clinically and in the general population. For example, two recent national surveys found rates of alcohol and substance dependence among problem and pathological gamblers in the general population that are approximately ten times higher than among low risk gamblers and nongamblers (Gerstein et al, 1999; Welte et al, 2001). There is also evidence that mood disorders, primarily major depression, frequently co-occur with problem and pathological gambling (Gerstein et al, 1999; Specker et al, 1995). The co-occurrence of pathological gambling and attention deficit hyperactivity disorder parallels research reporting ADHD in people with other addictions (Ozga & Brown, 2000; Rounsaville et al, 1991; Rugle, 1995). Finally, comorbid personality disorders—including borderline histrionic, narcissistic and antisocial personality—are extremely high, ranging from 25% to 93% among pathological gamblers in treatment (Rosenthal & Fong, 2004).

There are several theories as to why comorbid disorders are so common in pathological gamblers. There is disagreement about whether these disorders are caused by the same biological and psychological risk factors or whether one disorder causes the other (i.e., depression causes pathological gambling or vice versa). In developing effective interventions for pathological gambling, it is important to understand not only why comorbid conditions are so common but how they may cause pathological gambling. It will also be important to improve our understanding of how gambling may be used to self-medicate for other disorders, whether psychological or physical.

Personality Traits. Despite progress in understanding the genetic and biological causes of pathological gambling, pathological gamblers have historically been stereotyped as greedy, lazy, immoral and lacking honesty, work ethic and pride. There is research suggesting that certain aspects of personality development, including impulsivity and competitiveness, can predispose toward pathological gambling. However, simply having these personality traits is not enough to 'cause' pathological gambling nor does an absence of these traits protect from the development of gambling problems.

Pathological gambling is classified as an impulse control disorder and it is important to understand precisely how impulsivity, which contains elements of risk-taking, sensation seeking and arousal, contributes to loss of control over gambling. Research in clinical settings shows that pathological gamblers tend to be highly impulsive compared to healthy controls and suggests that pathological gamblers are less likely to think about future consequences and are more likely to act in the moment (Blaszczynski et al, 1997; Petry, 2001; Vitaro et al, 1999).

Sensation seeking tends to be high among casino and racetrack gamblers and low among electronic gambling machine players. The difference seems to conform to a distinction that is made in the gambling studies field between those who play competitive, skill-based games ('action seekers') and those who play non-competitive games primarily based on luck ('escape gamblers') (Lesieur, 1988; Lesieur & Blume, 1991). Pathological gamblers who are sensation seekers are more apt to be early onset male gamblers who wager primarily on competitive skill-based games and are likely to have other addictions involving risk or danger, including alcohol, drugs and sex.

Stress and Coping. Addictions research has made major strides in recent years in demonstrating the contributions of internal and external stressors in the initiation and maintenance of substance use disorders. While gambling itself can be a stressful activity, pathological gamblers frequently report gambling in order to escape life stress. Research on the relationship between pathological gambling and stress is in its infancy. However, abnormal responses to stress may be precipitating factors in the creation of pathological gambling and early interventions for problem gambling that focus on stress reduction may be helpful in preventing full blown development of the disorder.

Research into mood disorders has linked early adverse experiences as a contributing factor to the development of depression as well as a mediator of treatment response (Heim et al, 2004). Recent research by Petry et al (in press) has found high rates of childhood maltreatment, including emotional abuse and neglect, physical abuse and neglect, and sexual abuse among male and female treatment-seeking pathological gamblers. Furthermore, the severity of childhood maltreatment was significantly and independently associated with earlier age of onset of gambling and increased severity of gambling problems. These results suggest the importance of further investigation into the role of childhood maltreatment in the development of pathological gambling as well as the need for research on resiliency factors shown by some who experience childhood maltreatment but do not develop addictive disorders including pathological gambling. This area of research is critical in order to begin to identify protective factors that can be utilized for prevention.

Finally, there is a body of evidence suggesting that stressful life events can transition social gamblers into pathological gamblers (Roy et al, 1988; Taber et al, 1987). In addition to triggering gambling problems, life events may be a direct result of gambling problems, creating a cycle of stress, relapse to gambling, more stress and then more gambling (Hodgins & el-Guebaly, 2000).

Coping (or defense) mechanisms are dynamic processes that are used to resolve psychological conflicts. Such mechanisms are learned responses to stress that people use to minimize uncertainty or emotional pain. Pathological gamblers are more likely than non-problem gamblers to make use of a range of coping mechanisms that are considered immature and counterproductive, including avoidance, procrastination and dissociation (Brown, 1996; Diskin & Hodgins, 1999; Jacobs, 1988; Rosenthal, 1996, in press). Pathological gamblers appear to be more boredom-prone although the relationship between boredom susceptibility, depression and problematic gambling requires further exploration. Finally, studies have demonstrated that gambling in general is highly arousing and there is research suggesting that pathological

gamblers are motivated by the excitement of gambling rather than by the desire to win money (Anderson & Brown, 1984).

Learning Theories. Some researchers believe that addictive behaviors occur as a direct result of learned experiences. While learning theories are likely to be useful in understanding pathological gambling, much more research is needed in this area. Gambling activities operate directly on the principles of intermittent reinforcement, one of the most effective approaches to reinforcing and perpetuating behavior. Gambling also promotes cognitive distortions and irrational thinking, an area that has received far more research attention (Gilovich, 1983; Langer, 1975; Ladouceur & Walker, 1996; Toneatto et al, 1997).

What remains unclear is exactly how cognitive distortions are acquired and maintained although we can speculate that these distortions probably arise in response to a combination of personality traits, adaptation strategies and biological mechanisms that are responsible for learning. Further research is needed on the relationship between specific forms of gambling and the acquisition of cognitive distortions as well as the identification of modifiers of cognitive distortion.

3.2.3. Social Factors

There are a number of social factors that influence gambling behavior and may contribute to the development of pathological gambling. From a policy perspective, one of many important questions is whether increasing access to gambling increases rates of pathological gambling in the population and, if so, whether putting prevention programs in place prior to increasing access will limit the number of people who develop problems (see Section 3.1 above).

Age. Internationally, research has identified high rates of problem gambling among adolescents. This, along with reports of especially early ages of onset among treatment-seeking pathological gamblers, has formed the basis for widespread belief that early initiation into gambling is a risk factor for later pathological gambling (Gupta & Derevensky, 1998; National Research Council, 1999). However, Rosenthal and Fong (2004) point out that early experiences with gambling occur as part of normal social development and that early exposure to family card games or other socially managed gambling activities could serve as a protective factor in the development of problem gambling. The question is whether adolescent experimentation with gambling can be managed in ways that promote 'maturing out' and transition to non-problematic involvement in gambling.

Any consideration of age as a risk factor for problem gambling must consider the other end of the life span and the impact of legal gambling on older adults. Prevalence surveys do not support the notion that older adults are at greater risk than younger adults for the development of problem gambling (National Research Council, 1999; Volberg & McNeilly, 2003). However, research does show that older adults are more likely to gamble now than in the past (Gerstein et al, 1999) and it is possible that developmental issues such as impaired physical status, loss, isolation and limited recreational alternatives may contribute to growing numbers of older adults experiencing gambling-related problems. There is evidence that older adults represent a growing proportion of callers to problem gambling helplines in the U.S. (Volberg & McNeilly, 2003).

Gender. In most of the United States and other Western countries, rates of problem and pathological gambling are about two times higher among men than among women (Abbott & Volberg, 1996; American Psychiatric Association, 1994; Gerstein et al, 1999; Volberg, 2001, 2003b). In some jurisdictions, notably Australia and some U.S. states where gambling machines are widely distributed, rates of problem and pathological gambling are about equal for men and women (Productivity Commission, 1999; Volberg, 2003b).

Compared to female pathological gamblers, male pathological gamblers are younger, have higher incomes, initiated gambling and began gambling regularly at an earlier age, have a longer duration of gambling problems, have more severe legal problems, are more likely to have alcohol or drug related problems, to be diagnosed with antisocial personality disorder, and to gamble on cards, sports or the race track (Potenza et al, 2001; Grant & Kim, 2002; Ladd & Petry, 2002). Women are more apt to describe loneliness and relationship problems as precipitants of their gambling; they are also more likely to be diagnosed with depression. Women also report starting to gamble later in life than men.

These studies seem to support a longstanding characterization of men as early onset gamblers who play competitive, skill-based games, and women as late onset gamblers who play non-competitive, luck based games. According to this description, men gamble for excitement or action while women gamble to numb themselves or escape. However, an analysis of 'early onset' and 'late onset' gamblers in the general population in Arizona found that the majority of 'action gamblers' in that sample actually identified slot machines as their favorite gambling activity (Volberg, 2003a). Clearly, more research is needed to understand the relationships between gambling careers, gambling preferences and the development of gambling problems.

Another consistent finding is that women's gambling progresses more rapidly to problematic gambling (Ladd & Petry, 2002; Paton-Simpson, Gruys & Hannifin, 2004; Potenza, 2001; Tavares et al, 2001). Various explanations have been offered for this phenomenon, including the greater stigma attached to women's gambling problems, the limited financial resources available to women compared with men, experiences of loss and the stresses of caring for children and aging parents, and the greater difficulty of hiding gambling excursions and debts from family and friends. Breen and Zimmerman (2002) present data on gambling problems related to electronic gambling machines to suggest a radically different explanation: that it is not gender which accounts for the telescoping phenomenon, but rather involvement in electronic machine gambling.

Ethnicity and Culture. Most research on problem and pathological gambling has focused on white male gamblers. However, there is growing evidence to support the notion that disproportionate numbers of African Americans, Hispanics, Asians, and Native Americans are problem and pathological gamblers (Abbott et al, 2004a; Volberg, 2001, 2003b; Volberg & Abbott, 1997; Welte et al, 2001; Zitzow, 1996). While there is research suggesting that a strong ethnic identity can act as a protective factor against drug use among African Americans and Puerto Ricans, there is no research examining this relationship with regard to gambling.

Another cultural factor that appears to contribute to pathological gambling is the immigration process. Gambling may appeal to immigrants as an enticing way to make money but also as a

recreational activity that does not require English language ability, provides opportunities for socialization and relieves the stresses of acculturation. In one small study, Petry et al (2003) surveyed Southeast Asian refugees in the community and identified 59% of their sample as pathological gamblers.

Societal Attitudes Toward Gambling. Attitudes toward gambling in the United States have always been highly ambivalent. On the one hand, gamblers have been stigmatized as greedy and immoral. On the other hand, gambling has often been identified with American ideals of independence, risk-taking and entrepreneurship. Prior to the involvement of government in legislation and regulation, gambling was viewed as a morally suspect industry with close associations to organized crime. Over the last twenty years, as state legislatures have turned to gambling as a way to raise revenues without increasing taxes, attitudes have shifted and gambling is now generally viewed as an acceptable form of recreation and entertainment.

This change in attitude has been accompanied by two other significant developments. The first development is the 'normalization' of gambling as these activities spread far beyond the confines of gambling-specific venues and out into the community. The second development is the 'democratization' of gambling as groups that would not have gambled previously—particularly women and older adults but also youth and ethnic and cultural minorities—now do.

Access to Legal Gambling. The relationship between increased access to legal gambling and the prevalence of problem and pathological gambling is an important issue in light of the remarkable expansion of gambling throughout the United States and internationally. To understand the impact of increased availability, we must consider: (a) the effect of increased legislation permitting gambling; (b) the impact of new gambling venues on communities; and, (c) the creation of gambling-specific resorts.

Commissions and official government reviews in a number of countries including the United States, Great Britain, Australia and New Zealand have all concluded that increased gambling availability has led to an increase in problem gambling and that future increases will generate additional problems (Abbott, 2001; Gambling Review Body, 2001; National Research Council, 1999; Productivity Commission, 1999). Historically, the introduction and expansion of new forms of gambling, especially continuous forms such as electronic gambling machines, track betting and casino table games, have resulted in substantially increased rates of problem gambling. This has been documented across whole populations as well as within sub-populations that previously had low levels of gambling participation.

Expansion of gambling has been largely due to increased legislation offering more gambling opportunities and demonstrates how public policies can intersect with clinical conditions. Increased gambling opportunities create more problem and pathological gamblers by increasing the risk of exposure. As more and more people gamble, the risks are greater that individuals with specific vulnerabilities will gamble and develop problems related to their gambling. As noted above, results from a number of studies demonstrate that the location of a major gambling venue in a community is associated with rates of problem and pathological gambling that are approximately double the rates in communities without such venues.

As was also noted above, research suggests that the prevalence of problem gambling will eventually level out, even when accessibility continues to increase. However, rates are likely to rise dramatically before stabilization occurs and active measures, including raising public awareness, expanding services and strengthening regulatory measures are probably required to achieve stabilization sooner rather than later.

Role of Technology. The gambling industry has taken advantage of recent technological advances to increase the efficiency, reliability and accessibility of gambling options. The most dramatic changes have been the introduction of computer technologies in gambling machine design, changes in the accessibility of credit and financial services for gamblers, and the creation of new, online forms of gambling.

There is a strong belief among gambling counselors and researchers that electronic gambling machines are more addictive than other forms of gambling (Turner & Horbay, 2004). Electronic gambling machines (EGMs) are the most profitable form of gambling; they account for 80% of casino profits in the United States and Canada and are found in a growing number of non-traditional gambling locations. Internationally, a growing proportion of problem and pathological gamblers contacting helplines or accessing treatment are identifying EGMs as their primary form of gambling (Abbott et al, 2004c; Doiron & Mazer, 2001; Productivity Commission, 1999; Smith & Wynne, 2004). In addition to high intensity play and intermittent reinforcement, EGMs possess additional highly addictive features including near misses, frequent small wins, the possibility of large jackpots, non-availability of payout probabilities and illusions of skill (Turner & Horbay, 2004).

3.2.4. Natural Recovery

Natural recovery refers to the process by which individuals with maladaptive behaviors attain a state of recovery without the help of a formal treatment program or self-help. In the case of problem gambling, the exact number of individuals who recover on their own is unknown but is likely to be much higher than the number of problem gamblers who access professional treatment (Abbott & Volberg, 1996; Abbott et al, 2004b; Smith, Volberg & Wynne, 1994). Research has begun to shed some light on natural recovery from pathological gambling.

Hodgins, Wynne and Makarchuk (1999) reported that four out of six adults reporting a gambling problem in Alberta, Canada in 1997 recovered without treatment. Thomas and Jackson (2000) reported on a small study of 12 Australians recruited from a larger telephone survey of gambling and other risky behaviors including smoking, drinking and illicit drug use. In that study, respondents mentioned crisis points in their lives, family interventions and changing social relationships as catalysts for change. Embarrassment and stigma were mentioned as reasons for not seeking formal treatment, as was lack of recognition of the issue.

Abbott et al (2004b) reported on a group of 143 New Zealanders interviewed seven years after their initial assessment in a general population survey. Perhaps the most notable finding from the study was that the majority of people who were classified as problem and pathological gamblers in 1991 no longer reported significant problems in 1999, with greater change evident

for people with less serious problems. Problem gambling severity, the presence of comorbid drinking problems and a preference for track betting (all assessed in 1991) were the key factors that predicted a continuation of gambling problems seven years later.

In Ontario, Canada, Hodgins and el-Guebaly (2000) conducted a large study of the factors that precipitated recovery in a group of 43 resolved and 63 non-resolved problem gamblers recruited through radio and newspaper advertisements. These researchers found that gamblers who recovered on their own met fewer of the psychiatric diagnostic criteria than those who sought professional treatment, suggesting that those who recover on their own tend to have less severe difficulties than those who seek professional treatment. Recovered gamblers were most likely to report that 'negative emotions' and 'financial concerns' led them to resolve their gambling problems. Recovered gamblers were also most likely to cite 'financial status changes', 'recall of problems', 'gaining self-respect' and experiencing a 'sense of accomplishment' as factors that influenced maintenance of recovery. The major reason that those gamblers did not seek treatment was the desire to handle the problem themselves.

Casino employees represent a unique and highly vulnerable segment of the population because of their greater access and exposure to gambling compared to the general public. While casino employees have been found to have a much higher rate of gambling disorders compared with the general population, data from a group of casino employees assessed at three points approximately 12 months apart showed that nearly one-quarter of these respondents improved their problem gambling status over the course of the study while 12% became more problematic. There were few meaningful predictors of these changes in problem gambling status in the study but the data certainly challenge the notion of pathological gambling as a chronic and progressive disorder (Shaffer & Hall, 2002).

Adolescents and young adults are other subgroups in the population that appear to be particularly vulnerable to gambling problems. Slutske, Jackson and Sher (2003) report on aggregate- and individual-level developmental trajectories of problem gambling in a group of 192 young adults from the Midwestern U.S. aged between 18 and 29 years and assessed at four points in time. The results of that study present an apparent contradiction, with stable past-year prevalence rates in spite of significant incidence rates (experiencing a gambling problem for the first time) at each time point. However, the authors note that the aggregate statistics in the study mask considerable individual variation as well as substantial rates of 'negative incidence' where individuals classified as problem or more severe pathological gamblers at one point in time no longer met criteria at a later point in time. As with other more representative community samples, the results of this study suggest that natural recovery may be the rule rather than the exception, particularly among sub-clinical problem gamblers.

The likelihood that natural recovery is common among problem gamblers provides hope for effectively preventing gambling disorders in the community (Abbott et al, 2004b). If problem gamblers' behavior is as susceptible to change as the preceding few studies indicate, prevention messages could be targeted to specific groups in the population most at-risk for progression to pathological gambling. It would also be possible to target specific behaviors associated with progression towards more problematic gambling. Finally, given the relationship between problem gambling and hazardous drinking, treatment initiatives are needed to screen for

gambling problems in alcohol treatment programs and either refer for specialty gambling treatment or train providers in effective approaches to treating gambling problems among substance abusers.

Although hazardous use of substances besides alcohol did not emerge as an independent predictor of gambling problems in these studies, the comorbidity of problem gambling and substance abuse (see Section 3.2.2) underscores the importance of screening for gambling problems in substance abuse treatment programs generally as well as training providers to appropriately refer or treat individuals with comorbid substance abuse and gambling problems.

3.3. Regulation and Policy as Prevention Strategies

Although governments have had a great deal to say about how gambling operations will be organized and run, they have had little to say, until recently, about what ought to be done to protect customers from the harms of gambling. Beginning in the mid-1990s, however, a growing number of governments internationally started to mandate measures for lotteries, casinos, clubs and hotels to address problem gambling. Internationally, a common legislative action involves mandating that a small percentage of revenues from new gambling operations be set aside for problem gambling services. In several U.S. jurisdictions, such actions have resulted in a portion of lottery revenue or of a lottery's advertising budget being redirected to support services. In other jurisdictions, small percentages of tax revenues from riverboat casinos or from gambling machines at racetracks ('racinos') have been set aside for services.

In New Zealand, the national government recently passed a new Responsible Gambling Act that requires all gambling operators, including pub and club operators of electronic gambling machines, the horse racing and sports betting industry, casinos and the lottery, to begin paying a special tax to fund programs for the prevention and treatment of problem gambling. The tiered tax is scaled on the basis of each sector's presumed responsibility for the costs and harm associated with problem gambling. Additional new restrictions mean that some pubs and clubs will lose their machines as a result of a redefinition of areas considered suitable for gambling. ATMs will be banned from all gambling venues. Outside advertising of jackpots will be banned and machines will be required to automatically stop to give players the option to cash out. Finally all pubs, clubs and casinos are required to put programs in place for the identification of problem gamblers (Rutherford, 2004).

In the wake of the legalization of casino gambling in South Africa in 1998, a National Responsible Gambling Program (NRGP) was implemented which integrates research, prevention and treatment strategies and is funded by voluntary contributions from all sectors of the gambling industry except the lottery. The NRGP includes regulations that mandate codes of conduct for the industry on advertising and voluntary exclusion, research into the prevalence of problem gambling, and development of a public education campaign and a treatment program to help individuals who develop gambling problems. Treatment includes a helpline, free diagnostic consultation with any one of 39 trained treatment professionals located at 13 centers around the country, a short, six-session program of outpatient treatment if warranted by the diagnosis and inpatient treatment at one of three hospitals if the client is judged to be a danger to him/herself or

others. This model has been embraced by several other African countries, including Namibia, Swaziland, Lesotho, Botswana and Malawi (Abbott et al, 2004c; Arnold et al, 2003; Bannister, 2004).

The United States is unique in the number of governments that oversee legal gambling across the country. Forty-eight state governments and 224 sovereign tribal governments in 28 states oversee and/or operate legal gambling enterprises. Rivalry and competition for revenues have largely prevented governments from working together to develop comprehensive and effective approaches to minimizing gambling-related harms for their citizens (Volberg, 2004a). In contrast to some other countries, municipal and county governments in the U.S. have been relatively unsuccessful in passing and enforcing regulations on gambling venue signage, time limits and licensing conditions.

According to the American Gaming Association (2004), nine of the 11 states that permit commercial casino gambling (as opposed to those with tribal casinos on reservation lands) have statutes or regulations in place related to problem gambling prevention and treatment. Statutory or regulatory measures include the following:

- Seven states mandate a helpline.
- Seven states require posters or signage about problem gambling.
- Seven states require voluntary exclusion programs although these programs are quite variable.
- Seven states mandate funding for treatment.
- Six states restrict access to credit within casinos for individuals who have opted for voluntary exclusion.
- Five states mandate employee training.
- Four states mandate restrictions on marketing and direct mail activities.
- Three states have restrictions on serving alcohol.
- Three states mandate loss limits or limited stakes.
- Three states require public awareness activities.
- Two states have advertising restrictions.

Some efforts to prevent problem gambling have been undertaken voluntarily by sectors of the gambling industry. A growing number of gambling operators internationally have begun to develop 'responsible gaming' guidelines, policies and procedures. The casino industry has been the most proactive sector of the gambling industry in developing such initiatives; however, given the mix of ownership and regulation by government and industry that characterizes the gambling industry internationally, it can be difficult to parse out industry from government initiatives. These initiatives also tend to be quite variable in terms of whether they are mandated or voluntary.

3.3.1. Mandated Signage

One of the first steps taken by many governments is to require the advertising of helpline numbers. Numerous jurisdictions have mandated the advertising of helpline numbers.

Approaches have included printing the helpline number on lottery tickets (e.g., Indiana, Ohio and Texas), posting the number on slot machines (e.g., Delaware and Nevada), posting billboards (e.g., Delaware, Louisiana and New York), placing posters inside of casinos (e.g., Missouri and Nevada), and targeted mailings to professionals, clergy and criminal justice personnel as well as advertising in newspapers and on radio and television (e.g., Connecticut, Iowa and Ohio). In some jurisdictions, lotteries have developed 'point of sale' materials about problem gambling for display in lottery retail outlets.

One unintended consequence of mandated advertising of helpline numbers on lottery tickets or in gambling venues is that helpline call centers are inundated with calls from people seeking information about winning lottery numbers or casino hours of operation. The proportion of such callers can range from 50% to 95% of the total volume of calls with a concomitant impact on the overall cost of operating problem gambling helplines.

3.3.2. Limits on Number of Devices and Hours of Operation

Given that access to gambling is necessary for the development of problem gambling, reducing access is one approach that could reduce problems. In a few jurisdictions in Australia and Canada, governments have elected to reduce the number of electronic gambling machines in an effort to reduce gambling-related harms. In Nova Scotia, the number of video lottery terminals (VLTs) in liquor-licensed establishments has been capped at approximately 3,200 machines, although, there are no provisions capping the number of machines located in casinos or on First Nations lands in the province (Buckley, personal communication). In Victoria, a binding cap was placed on the number of electronic gambling machines that could be operated statewide. However, this measure did not have the expected impact of holding expenditures on these machines level. Instead, operators moved the machines to locations that would maximize revenue—namely, lower socioeconomic areas with demographic profiles suggesting their populations were at high risk for problem gambling—and average expenditure per machine approximately doubled (Abbott et al, 2004c).

In South Australia, the government required all venues where electronic gambling machines are located to be closed for six hours for every 24. There is presently legislative debate about extending this 'down time' to up to 12 hours although the issue is controversial and there does not appear to be any research that addresses the effectiveness of this approach. Questions remain about whether limiting the time that venues are open will help minimize gambling problems or reduce the losses experienced by problem gamblers or the harms experienced by others. Another challenge is to ensure that opening and closing times are the same across all gambling venues to prevent problem gamblers from extending their involvement by 'venue hopping' (Pinkerton, personal communication).

3.3.3. Voluntary Exclusion Programs

From a public health perspective, exclusion has the potential to be an effective tool for minimizing harm from gambling by assisting some individuals to control their gambling. A

growing number of governments have mandated 'voluntary exclusion' programs, where patrons (or family members) may request that they be banned from the gambling establishment, removed from its mailing list and sanctioned if they re-enter the premises. Sanctions for gamblers typically include arrest for trespassing and fines; in some jurisdictions, operators who permit excluded individuals to gamble may also be fined.

Voluntary exclusion programs are operated primarily by casinos but increasingly are being required for clubs, pubs, and taverns where electronic gambling machines are located. Exclusion programs have been introduced in several European countries, all of the Canadian provinces, several U.S. states (e.g., Connecticut, Illinois, Louisiana, Michigan, Mississippi, Missouri, Nevada and New Jersey), in New Zealand and in some states in Australia, most notably Victoria.

Regulators in some European countries are able to enforce significantly more stringent measures, particularly with regard to exclusion. In the Netherlands and Switzerland, for example, exclusion programs are mandatory rather than voluntary. This is possible only because entry into casinos in these countries requires presentation of identification. This means that the frequency of individual patrons' visits can be monitored and exclusion offered to those whose visits exceed a specific limit. It also means that excluded individuals are much more likely to be identified and barred.

Several small studies of voluntary exclusion programs have been conducted or are underway. For example, Ladouceur et al (2000) carried out a descriptive study of the characteristics and outcomes for a cohort of individuals who self-excluded from the Montreal Casino in Quebec. Individuals signing up for that program can select a period ranging from six to 60 months for self-exclusion. The researchers found that 95% of the self-excluders met the psychiatric criteria for pathological gambling, that 24% had one or more previous exclusions and that 36% of the repeat excluders admitted returning to the casino to gamble. Nearly half of the self-excluders had considered seeking professional help but only 10% actually did so. The researchers concluded that self-exclusion was helpful for gamblers who might need assistance but were not ready to seek professional help.

In a conference presentation, Steinberg (2002) presented information from patrons who were surveyed at the time that they chose to self-exclude from a large tribal casino in Connecticut. Over a 14-month period, 294 patrons voluntarily excluded themselves from the casino and 63% of these individuals completed the survey. Respondents were most likely to have learned about the exclusion program from a family member or friend (39%), followed by Gamblers Anonymous (14%) or a casino employee (11%). Nearly all of the respondents (96%) scored as pathological gamblers on a standard screen and 64% of the respondents identified slot machines as their main problem. All of the respondents were invited to participate in a follow-up study and 43% (n=80) agreed; however, only 20 of those individuals were actually contacted and re-interviewed. The interval between the two interviews was not specified. Half of these respondents felt that the self-exclusion program needed to be better publicized and 42% felt that casino employees had known that they had a problem. Four respondents returned to the casino to gamble after excluding themselves. Based on these respondents' subsequent help-seeking behavior, Steinberg (2002) concluded that self-exclusion is an effective gateway to formal treatment or self-help for problem gamblers.

More recently, the South Australia Centre for Economic Studies (2003) conducted a review of voluntary exclusion programs in Australia and internationally in the course of a study of the effectiveness of the voluntary exclusion program operating in Victoria. The researchers concluded that voluntary exclusion programs are evolving rapidly and that it is difficult to identify 'best practice' in voluntary exclusion programs. They identified several important challenges to the effective implementation of voluntary exclusion programs, particularly in relation to systems of identification, detection and enforcement. Another key problem is the lack of integration with complementary measures in the community. Their recommendations included jurisdictional standardization and uniformity, introduction of voluntary measures such as pre-commitment betting limits, development of cost-effective, technology-based systems for notification, monitoring and compliance, involvement of trained counselors in the assessment and implementation of exclusion along with follow-up with the excluder, and development of a research and evaluation component.

While existing exclusion programs are a step in the right direction, there is considerable room for improvement. At an Alberta conference on problem gambling prevention, Nowatzki and Williams (2002) reviewed all of the Canadian exclusion programs and made a series of recommendations, including:

- Mandatory promotion of exclusion programs.
- Jurisdictional standardization and uniformity so that the ban applies to all properties in the jurisdiction and patrons would not have to enter a casino or venue to sign up or renew voluntary exclusion.
- Extending exclusion to all gambling venues.
- Use of computerized identification checks to enforce exclusion.
- Penalties for venue and gambler upon breach of exclusion.
- Optional counseling and mandatory gambling education seminars for persons who choose to self-exclude.
- Increased training and education of gambling employees.

The U.S. National Council on Problem Gambling recently published recommendations for voluntary exclusion, based on a series of forums and reflecting consensus among a broad range of stakeholders, including industry representatives, gambling regulators, problem gambling counselors, researchers and recovering gamblers (National Council on Problem Gambling, 2003). These recommendations are quite similar to the Canadian recommendations.

Napolitano (2003) has argued that the entire concept of voluntary exclusion is flawed, contending that these agreements are not enforceable contracts and that the sanctions imposed on the gambler are disproportionate to the agreement as well as unjustified. In the present context, his most interesting argument is that voluntary exclusion programs use "a fixed as opposed to an individualized approach" (p. 313). Since exclusion programs are unlikely to be discarded as a weapon in the 'responsible gambling' armamentarium, this remark points to the likely importance in the future of developing exclusion programs 'matched' to the type of gambler and specific difficulties that person is experiencing.

3.3.4. Mandated Funding for Treatment

Government funding for problem gambling treatment is available in a growing number of U.S. jurisdictions. Only a portion of the cost of treatment is covered in some states (e.g., Florida, Georgia and West Virginia). In other states, any resident who meets the psychiatric criteria for Pathological Gambling is entitled to receive professional treatment (e.g., Louisiana, Michigan and Oregon). In Australia and New Zealand, professional treatment is available to anyone who believes that they have a gambling problem and seeks help from a specialist counseling agency (Abbott et al, 2004c; Christensen, personal communication).

3.3.5. Responsible Gambling Features: Applications for Electronic Gambling Machines and Online Gambling Sites

Rapid expansion of electronic gambling devices and the emergence of a public health approach to minimizing gambling-related harms have led to growing interest by governments in Responsible Gambling Features (RGFs). RGFs are features built into electronic gambling devices that are intended to reduce the likelihood of players losing control over their gambling. Examples include placing limits on game speed, maximum bets, and high-value bill acceptors, displaying information about time and expenditures per session as well as pop-up messages regarding responsible play, and requiring mandatory cash-outs after a predetermined period of play. To date, the governments of the Australian state of New South Wales and the Canadian provinces of Manitoba, Nova Scotia and Quebec have mandated the implementation of RGFs.

A similar trend is emerging in the rapidly developing area of interactive gambling services. Online gambling provided by licensed and regulated operators now exists in approximately 30 countries, including Australia, Canada, Great Britain, the Netherlands and South Africa (Sinclair & Volberg, 2000). McMillen (2003) notes that the interactive technology to address problem gambling online has existed for several years and has the potential to exceed any protections offered in the 'physical' world. A few licensed operators are adopting such measures and their further enhancement is the subject of extensive research and development. For example, licensed online gambling sites in Australia are required to have player protection measures in place. In addition to provisions for voluntary and imposed exclusion, those measures include limits set by the service provider or by the player on monthly expenditures and on amounts bet, prohibitions against credit betting, delays in payment of winnings, player tracking systems that monitor behavior and identify potential problems and which can trigger imposed exclusion, and online links to counselors and other forms of problem gambling assistance (Lasseters Corporation, 2003).

Evaluation of Responsible Gambling Features. While problem gambling experts generally agree that it is desirable to limit the amounts of time and money spent gambling and to provide gamblers with information that will allow them to make informed decisions about their gambling involvement, it is unclear precisely what impact the new RGFs will have on regular gamblers and problem gamblers. Despite their intuitive appeal, there has been very little research into the development of RGFs or their effects on problematic gambling behavior. To date, only two large-scale studies have attempted to assess the impact of changes to electronic gambling

machines on regular and problem gamblers (Blaszczynski, Sharpe & Walker, 2001; Schellinck & Schrans, 2002).

Given limited research and the fact that all of these RGFs were introduced in conjunction with changes in game content and speed, it remains unclear whether RGFs alone are effective in reducing the potential for harm from electronic gambling machines. For example, the two independent research teams agreed that on-screen clocks and display of betting activity in cash amounts rather than credits appear to be effective in helping gamblers keep track of time and money spent and may contribute to reductions in specific behaviors related to increased risk for problem gambling while not creating negative unintended consequences.

However, conflicting approaches taken with regard to some features make it difficult to assess their impact on player behavior. In Nova Scotia, bill acceptors were introduced along with RGFs while in New South Wales, high-value bill acceptors were eliminated with relatively little impact on player behavior. Similarly, game speed was increased in Nova Scotia and reduced in New South Wales. Increased game speed appears to have contributed to maintenance or increases in expenditures per session in Nova Scotia. In contrast, slower game speed seems to have contributed to persistence in play in New South Wales with implications for increases in excessive gambling.

Exposure to a 60-minute pop-up message in Nova Scotia was associated with a significant reduction in session length and decrease in expenditure among higher-risk players; however, the feature was annoying to low-risk players. Furthermore, players were able to reset the internal clock and avoid exposure to the pop-up messages in Nova Scotia by cashing out and re-commencing play or by running credits down to zero before putting in more money. Finally, the researchers in Nova Scotia speculate that habituation may reduce the effectiveness of pop-up messages.

The few studies that have been completed suggest that some RGFs can be beneficial. However, other such features may have negative, if unintended, consequences and it is not always easy to predict the overall impact of the introduction of these features. Most importantly, it is clear that empirical evaluations of changes to electronic gambling machines need to be conducted on a small scale before being implemented on a jurisdiction-wide basis.

3.4. Funding and Organization of Problem Gambling Services

'Problem gambling services' refers to a wide range of activities, including prevention, treatment and research, carried out by government agencies, non-governmental organizations and industry operators. Prevention generally includes public awareness and public education campaigns, workforce development, industry training and, increasingly, community activism. Treatment includes helpline and counseling services in outpatient settings as well as more limited intensive outpatient and inpatient services. Research includes prevalence and impact studies as well as evaluation of prevention and treatment services.

3.4.1. Funding of Problem Gambling Services

Internationally, the allocation of funds for problem gambling services varies substantially from one jurisdiction to another. In the United States, approximately $25 million[6] is spent annually on problem gambling services in the 47 states that permit legal gambling. There is direct government funding for problem gambling services in only 16 states; in other states, these funds come from gambling operators and private donors (Christensen, 2002; National Council on Problem Gambling, 1998).

Table 2 presents information about total and per capita expenditures on problem gambling services in several international jurisdictions. These figures include spending on problem gambling research, treatment and prevention.

Table 2: Spending on Problem Gambling Services, 2004

Jurisdiction	Total Spending	Per Capita Spending
New Zealand	$16 million	$4.19
Victoria, Australia	$10 million	$2.04
Canada	$44 million	$1.47
United States	$25 million	$0.09
South Africa	$2 million	$0.04

Spending on problem gambling services also varies widely within the United States. Table 3 presents information about overall spending and per capita spending on problem gambling services in a selection of U.S. jurisdictions where state funds support these services.

Table 3: Spending on Problem Gambling Services in the U.S.

Jurisdiction	Total Spending	Per Capita Spending
Oregon	$2.9 million	$0.89
Iowa	$2.1 million	$0.72
Nebraska	$1.2 million	$0.71
Connecticut	$1.5 million	$0.44
Louisiana	$2 million	$0.44
Minnesota	$1.5 million	$0.31
Massachusetts	$1.2 million	$0.19
Jurisdiction	Total Spending	Per Capita Spending
Illinois	$2 million	$0.16
New York	$2.3 million	$0.13
California	$3 million*	$0.09

[6] This amount represents about one-tenth of 1% of the $18 billion or more in gambling privilege taxes collected by state governments (Christiansen, 1999).

Missouri	$450,000	$0.08
Indiana	$ 3.5 million	$0.06
Kansas	$100,000	$0.04

*This does not include $85,000 that the California Lottery spends annually on problem gambling services.

Across the board, the bulk of revenues for problem gambling services fund direct services such as helplines and formal treatment. Outside of the United States, substantial funds also go toward service development and research. In Great Britain and South Africa, problem gambling funds are divided approximately equally between prevention and education, treatment and research. In New Zealand, about 60% of available funds goes to helpline and counseling services and the remainder goes toward research, workforce development and, most recently, public health services and community activism aimed at the prevention of gambling problems (Abbott et al, 2004c).

3.4.2. Organization of Problem Gambling Services

In the United States, responsibility for problem gambling services has primarily been placed within existing state substance abuse and/or mental health (SA/MH) departments. However, limited staffing has meant that service provision as well as research and evaluation have been largely contracted out to non-governmental organizations. The bulk of available funding goes toward formal treatment (44%) and helplines (19%). Public awareness and prevention account for another 19% of the funds, training of counselors with substance abuse and mental health experience to diagnose and refer problem gamblers accounts for 9% of the funds, and administration within state government agencies accounts for 7% of the funds. Only 2% of the funding provided for problem gambling services by state governments goes toward research and evaluation (Christensen, 2002).

The major sources of funding for problem gambling research in the United States are the National Center for Responsible Gaming (NCRG) and the National Institutes of Health. In 1996, the American Gaming Association established NCRG to fund independent, peer-reviewed research on pathological and youth gambling. In 2000, NCRG delegated its academic and scientific research functions to the Institute for the Study of Pathological Gambling and Related Disorders at Harvard. Since 1996, NCRG and the Institute have awarded approximately $8 million for epidemiological, neuroscience and behavioral investigations of underage and problem gambling. Approximately two-thirds of these funds have been awarded intramurally to the Institute. Between 1999 and 2003, the National Institutes of Health awarded a total of 23 grants, representing approximately $9 million in committed funds, for problem gambling research on genetics, assessment, epidemiology and treatment of pathological gambling. All of these investigator-initiated grants were awarded in direct competition with the thousands of other applications in the Federal health-research peer-review system (Volberg, 2004a).

3.5. Public Education and Awareness Campaigns

Early efforts to raise awareness of the risks associated with gambling were largely limited to signage posted in gambling venues or on gambling products (e.g., lottery tickets, racing forms).

These efforts were followed by community activities, including presentations at schools and community organizations, informational tables at health fairs, informational workshops for civic organizations, businesses, EAP organizations, and social service and law enforcement agencies. The next step was the development of national conferences, followed more recently by regional conferences across the U.S., Canada and internationally as growing numbers of counselors (and more recently, gambling industry professionals) seek continuing education to qualify for specialized credentials.

Since 2000, advocacy organizations, gambling trade associations and governments have developed more focused 'awareness campaigns' to heighten public awareness of problem gambling. While these events—best characterized as universal prevention efforts—provide a significant opportunity to heighten public awareness of problem gambling, there has been little work to formally evaluate their effectiveness.

3.5.1. Raising Awareness: Public, Players and Employees

Beginning in 1998, the American Gaming Association (AGA) has designated one week in August as "Responsible Gaming Education Week." During this week, casino properties and gaming equipment manufacturers engage employees in awareness-raising activities about underage and problem gambling, distribute informational materials to employees and customers, and introduce new employee training tools and resources. The most recent Responsible Gaming Education Week (August 2-6, 2004) focused on the AGA's new Code of Conduct for Responsible Gaming. This is a voluntary code that the association hopes will be implemented nationally by its members.

In 2002, the Canadian province of Nova Scotia held a similar week-long event. The organizing committee included the Nova Scotia Gaming Corporation, the Atlantic Lottery Corporation, Casino Nova Scotia and the Nova Scotia Department of Health. This collaborative effort was the first step in a three-year strategic plan to promote responsible gambling across the province. These annual events have included workshops for employees and players, posters at gambling venues, shopping mall displays, newspaper, cable television and billboard advertising and distribution of thousands of brochures to lottery retailers and customers. In assessing the impact of the first event, the organizers noted that the provincial problem gambling helpline reported an increase in the number of calls received from people seeking information or assistance for a gambling problem and that many callers specifically mentioned the literature distributed during the week-long campaign as a catalyst in their decision to call the helpline (American Gaming Association, 2003).

In 2003, the National Council on Problem Gambling in collaboration with the Association of Problem Gambling Service Administrators (APGSA) organized the first National Problem Gambling Awareness Week (NPGAW). NPGAW is designed to utilize the structure and partnerships of the National Council's 34 state affiliates, corporate members, state agencies involved in problem gambling service administration and other nonprofit organizations. NPGAW is held in early March and is designed to educate the general public and health care professionals about the warning signs of problem gambling and to raise awareness of problem

gambling services locally and nationally. A total of 52 organizations participated in events in 24 states during the first National Problem Gambling Awareness Week. In its second year, events were held in over 30 states, more than 2,500 resource kits were distributed, and a 30-second television PSA produced in collaboration with the Oregon Lottery and Oregon Department of Human Services was run in nine states with a combined population of approximately 75 million.

In 2000, the Centre for Addiction and Mental Health in Ontario, Canada developed a presentation package for service agencies to use in raising public awareness and increasing knowledge among professionals who might encounter problem gamblers. Feedback from two user surveys led to the development of a new resource package in 2001 (Centre for Addiction and Mental Health, 2001). This new resource package (*Promoting Community Awareness of Problem Gambling*) is organized into modules with numerous sections that can be utilized or ignored depending on the target population and audience. The package can be customized for the presenter's specific program and services and contains information on conducting public presentations. Appendices offer additional information and hand-outs for specific audiences.

Evaluating Public Awareness Campaigns. Evaluations of problem gambling awareness campaigns are rare but increasing. The earliest published study evaluated whether a brochure on problem gambling increased understanding of the disorder in the general population in Quebec (Ladouceur et al, 2000). Participants (n=115) were recruited in a shopping mall and in a municipal park and randomly assigned to receive or not receive the brochure. All of the participants were subsequently assessed to determine their knowledge of information contained in the brochure. The experimental group was significantly more likely than the control group to provide this new information accurately and the researchers recommended that systematic evaluation of informational material be conducted before widespread implementation occurred. However, they noted that further research is needed to evaluate the long-term effects of such campaigns.

Najavits, Grymala and George (2003) reported on a $200,000 campaign in Indiana to educate the public about the signs of problem gambling and to increase awareness about problem gambling services. Two telephone surveys were conducted, just prior to, and six weeks after, the campaign, which included radio, newspaper and billboard advertisements, presentations by nationally recognized speakers, a gubernatorial declaration of "Indiana Problem Gambling Awareness Week," town hall meetings and extensive local press coverage. The researchers found no significant differences in pre- and post-campaign responses to questions assessing familiarity with the issue of problem gambling, identification of problem gambling warning signs or awareness of problem gambling services in Indiana. However, only eight percent of the post-campaign respondents (n=400) reported seeing one of the advertisements. The researchers concluded that problem gambling awareness campaigns require both an effective message and adequate dissemination of the message and they recommended the use of television advertising in future campaigns.

The largest and longest running problem gambling prevention program is the community education campaign developed by the Victoria Department of Human Services in Australia. The campaign was initiated in 1995 and included a phased centralized statewide media and print component and a decentralized component that involved deployment of 13 Community

Education and Gaming Facility Liaison Officers (CEGFLOs). CEGFLOs are employees of social service agencies with responsibility for local community education as well as liaison with gambling industry venues and personnel. The three phases of the campaign included a five-week multi-language radio, newspaper and billboard advertisement phase in 1995, a 14-week television advertisement phase in 1996, and a 30-week radio and television advertisement phase between 1997 and 1998.

Jackson et al (2002) report on the effectiveness of the Victoria community education campaign. The evaluation included a telephone survey (n=502) to test recall of the statewide television campaign, analysis of telephone calls to the problem gambling helpline before, during, and after the campaign, analysis of the number of new clients at specialized service sites before, during, and after the campaign, a postal survey of CEGFLOs, analysis of two-week task diaries kept by CEGFLOs during the campaign, postal surveys of gambling venue staff and managers, face-to-face interviews with members of the general public and with gambling venue patrons, and collation and analysis of all problem gambling information products created and distributed as part of the local campaigns.

Six months after the conclusion of the third phase of the campaign, community awareness of support services for problem gamblers had increased from 43% prior to the beginning of the first phase of the campaign to 71%. There was an immediate and sustained increase in the number of telephone calls received by the helpline following the third phase of the campaign as well as an increase in new client enrollments in the state's problem gambling counseling program. Nearly all of the staff at the gambling venues (97%) had heard of the specialized services for problem gamblers in Victoria, 51% of staff had contact with these services and eight percent of the venues had actively sought advice on how to manage a difficult situation involving a patron. Problem gambling material was displayed in 99% of all gambling venues and 83% of gambling venue staff had attended a training/information session about problem gambling. The evaluation team concluded that the statewide and local campaigns worked successfully to reinforce each other and that community awareness of the existence and nature of problem gambling and problem gambling support services as well as direct access to these services increased substantially as a result of the campaign. Despite the diversity of the local community awareness materials, the 'branding' of problem gambling services in Victoria was deemed a success (Jackson et al, 2002).

In 2004, Olynik (2004) presented the results of a tracking study to measure the effectiveness and impact of the second phase of the Manitoba Lotteries Corporation responsible gambling advertising campaign, a relatively 'hard hitting' television and radio effort aimed at males aged 18 to 24 years. The study surveyed 630 Manitoban adults and assessed awareness of problem gambling as an issue, consumer attitudes and awareness and use of the provincial helpline. The results showed that message recall was higher for television than for radio advertisements and that recall of the advertisements was substantially higher among the targeted age group compared with older adults. Several challenges to the campaign were noted, including the tension between budget and creativity, the mixed impact on corporate image and difficulties with timing the launch of the campaign. Lessons learned included the importance of attending to research on at-risk groups, targeting messages, evaluating the impact, developing a public relations strategy and communicating with partners.

All of the researchers who have conducted evaluations of problem gambling awareness campaigns emphasize the challenge that media campaigns to *promote* gambling pose for problem gambling prevention efforts. For example, Najavits et al (2003) note that in the same year that Indiana funded its $200,000 public awareness campaign, the state spent $11.5 million on advertising for its state lottery. Jackson et al (2002) point out that spending on gambling advertising was nine times greater than spending on the Victoria Department of Human Services awareness campaign in the same period. Deguire (2003) goes even further and questions the potential effectiveness of *all* current efforts at primary prevention, given the much greater budgets, extensive reach, and aggressive nature of the gambling industry's promotion and publicity campaigns.

3.5.2. Public Education: Focus on Youth

Perhaps because it is easier to achieve consensus among stakeholders, the great majority of problem gambling primary prevention has been aimed at school-age children. There is certainly ample research evidence that youth gamble for money with peers and family members and that many are able to participate in forms of legalized gambling in spite of legal restrictions. Furthermore, adolescents appear to be particularly susceptible to the development of serious gambling problems (Derevensky & Gupta, 2004; Jacobs, 2000; National Research Council, 1999).

Primary prevention programs directed at youth have been developed primarily in Canada, although several Australian and U.S. states (e.g., Victoria, Connecticut, Minnesota) have active youth prevention programs and New Zealand is in the process of rolling out a newly developed program. These programs are generally school-based curricula aimed at adolescents between the ages of 12 and 17 years. Despite widespread agreement that education about gambling should be included in life skills and health education curricula for children and adolescents, there is no jurisdiction in the U.S. or internationally that *requires* the inclusion of gambling materials in school-based curricula (Wiebe, personal communication).

In addition to school-based curricula, several affiliates of the U.S. National Council on Problem Gambling have held successful poster contests and campaigns that provided an opportunity to facilitate discussion and raise awareness of youth gambling problems. In 2000, the Responsible Gambling Council (Ontario) took this approach further and sponsored an annual contest throughout all the high schools in Ontario for the production of a screenplay. Each year, the winning screenplay has been professionally produced and performed in communities throughout the province. Feedback from students has been positive and an external evaluation is planned in 2004 (Bell, 2004).

Although there are increasing numbers of adolescent problem gambling prevention programs, understanding of the effectiveness and efficacy of these programs remains limited. The vast majority of these programs are 'universal' efforts that simply seek to raise awareness concerning gambling and gambling-related problems. A few programs go further and encourage the development of interpersonal coping skills, techniques to enhance self-esteem and suggestions for resisting peer pressure to gamble. Some programs focus on the mathematical aspects of

gambling while others focus on reducing erroneous cognitions (Derevensky et al, 2001). Few of these programs have been tested for effectiveness or been evaluated as to their efficacy in achieving their goals. Most fall far short of the models and standards associated with 'best practices' in prevention.

In a recent study in Ontario, Canada, Weibe & Falkowski-Ham (2003) conducted a three-phase study to assemble a profile of youth between the ages of 9 and 16 years ('tweens') for the purposes of guiding the development of problem gambling prevention strategies. These researchers identified a variety of implications of this research for prevention strategies with youth, particularly with regard to providing meaningful and targeted problem gambling messages to youth. These include understanding the language of the target group, developing messages that speak to the perceived positive impacts as well as known negative impacts of gambling, increasing parents' awareness of youth gambling and associated negative impacts, and disseminating messages outside the confines of school.

There are a range of considerations in developing primary prevention programs targeted at youth. Evidence from the field of adolescent alcohol and substance abuse prevention suggests that no single approach is likely to be uniformly successful and that a combination of strategies works best at nurturing resilience among adolescents (Baer, MacLean & Marlatt, 1998). Strategies that combine programs across school, family and community domains are most likely to be successful as are programs that include a range of activities aimed at informing youth, parents, educators and others, improving life and social skills, offering alternative activities, ensuring problem identification and referral, and fostering community-based processes. Finally, programs need to be adapted as coping strategies and social, academic, employment and economic pressures change over time.

Moving forward, Derevensky et al (2001) argue for adoption of scientific standards for prevention program evaluation advocated by Brounstein, Zweig and Gardner (1999). Derevensky et al point to increasing reliance on harm reduction approaches, as opposed to abstinence, in the fields of alcohol and substance use and argue for adoption of a similar approach in relation to gambling. In addition, evidence of common risk and protective factors across multiple domains of risky behavior among adolescents is an argument for designing and implementing prevention strategies that target a range of risky behaviors.

Alternate Approaches to Educating Youth. A very new development in youth problem gambling prevention is the emergence of teen-oriented websites that address gambling problems. Most of these new websites are based in Canada; examples include Zoot2 (http://www.zoot2.com), hosted by the Alberta Alcohol and Drug Abuse Commission; and, Lucky Day (http://www.luckyday.ca), hosted by the Addictions Foundation of Manitoba. A similar website has just been launched in New Zealand, offering information and assistance to youth (http://inyaface.co.nz). In the United States, the North American Training Institute in Minnesota hosts a webzine about underage gambling (http://www.wannabet.org) and the Louisiana Office for Addictive Disorders hosts a 'youth gambling prevention' website with interactive games, information and assistance (http://www.thegamble.org).

In a recent conference presentation, Korn, Lombardo and Murray (2002) provided a description of the development of a website called TeenNet (http://www.youthbet.net). The goal of

TeenNet, based at the University of Toronto's Department of Public Health Sciences, is to promote informed, balanced attitudes and behaviors towards gambling, prevent youth gambling-related health problems, and protect vulnerable and at-risk youth. The research team established partnerships with five community agencies, conducted focus groups involving over 100 youth to help develop the website design, content and messaging, held a roundtable with 30 youth to create the website concept, and recruited seven members of this group to serve as a website working group. An evaluation is underway to assess utilization and changes in gambling knowledge, awareness, attitudes, and behavioral intentions.

3.5.3. Other Targeted Efforts

Women. The Connecticut Women's Project and Symposium was a collaborative effort by a broad range of stakeholders in the planning and implementation of a symposium focused on women with gambling problems. Organizers included the Connecticut Department of Mental Health and Addiction Services, the Connecticut Lottery, the Connecticut Partnership for Responsible Gambling and the Gambling Awareness Committee. The symposium was held in March, 2004 and attended by approximately 300 mental health and addiction treatment professionals. At the symposium, the Commissioner of the Department of Mental Health and Addiction Services requested that all programs screen for problem gambling and that each agency identify and train a problem gambling specialist. Symposium participants were enlisted to help in the statewide distribution of targeted problem gambling awareness materials at "places where women gather" including beauty parlors, grocery stores and doctors' offices.

Older Adults. Although the evidence regarding heightened risk for problem gambling among older adults is equivocal, prevention materials have been developed for this population. For example, the North American Training Institute (NATI) developed a prevention program that targets adults aged 60 and over with a 15-minute video accompanied by a pamphlet whose goals are to help seniors identify warning signs of problem gambling and where to seek help. In addition to providing copies of the video and pamphlet to health-care providers on request, NATI will conduct in-service training about seniors and the risks of problem gambling for a fee. NATI also maintains a web-based magazine for older adults (http://www.youbetyourlife.org).

Other resources include a monthly newsletter addressing issues of senior problem gambling published by Connecticut Council on Problem Gambling and a community based problem gambling prevention program for older adults being conducted by the University of Windsor in Ontario, Canada. The Florida Council on Compulsive Gambling maintains resources for older adults on its website (http://www.gamblinghelp.org/), publishes a newsletter as well as a series of self-help workbooks and has established a pilot prevention program in conjunction with Broward County's Elderly and Veterans Services Division.

Ethnic and Cultural Groups. In 1995, the Alberta Alcohol and Drug Abuse Commission developed a 12-minute video that targets First Nations people who have developed a gambling problem. The video stresses the similarities of gambling to alcohol and drug abuse in its negative consequences and addresses the importance of spirituality in aboriginal efforts to overcome addiction and practice abstinence. In 1999, the same agency produced another video

focused on the life of a First Nation's teenager with a serious gambling problem. This video is accompanied by a discussion guide that includes group discussion topics and activities to increase students' knowledge and understanding of gambling problems. The guide also contains worksheets, questionnaires to assess students' knowledge before and after the exercise, and a screening instrument to identify students with gambling problems.

Despite concerted efforts, there is little evidence of culturally diverse approaches to the treatment or prevention of gambling problems. While research has contributed to understanding of familial, genetic, sociological and individual risk factors for problem gambling, variables such as cultural values and beliefs, the process of acculturation and the influence of culturally determined help-seeking behaviors need to be examined in relation to the development and maintenance of gambling behaviors. Research is also needed to examine how these factors can inform effective prevention measures.

In a recent review, Raylu and Oei (2002) point to evidence that different cultural groups have preferences for different types of gambling and review studies indicating that certain ethnic groups (e.g., Arabic, Chinese, Korean and Vietnamese) are unlikely to present for problem gambling services in spite of reporting higher levels of negative consequences related to gambling. Although shame is a major factor contributing to low rates of help-seeking across all of these groups, there are cultural differences in the basis for this shame. Among Arabic and Turkish individuals, shame is related to religious principles prohibiting gambling. Among Chinese, shame is related to losing face and respect among members of the group. Similarly, Arabic, Greek, Italian, Korean, Macedonian, Spanish and Vietnamese individuals are more likely to believe that government or the gambling industry should have primary responsibility for providing help for problem gamblers. In contrast, Chinese and Croatians are more likely to believe that this responsibility rests with themselves, their family or their community.

These differences suggest that the development of prevention strategies requires input from a broad range of cultural and ethnic groups. To be effective, this research also suggests that prevention programs must go beyond language differences to address the diverse range of risk factors, practices, beliefs and attitudes about gambling, problem gambling and help-seeking among these groups.

3.5.4. Innovative Practice in Public Education and Awareness

Several innovative approaches to problem gambling prevention have emerged recently. These include educational devices for use by gamblers and the general public, information centers located in gambling venues, and efforts to identify the parameters of 'moderate gambling.'

Game Education for Players and the Public. In 1998, Game Planit, a business partnership of multimedia, problem gambling and educational specialists from Canada, developed Safe@Play, a comprehensive educational module about how slot machines work. In 2001, Game Planit released a CD-ROM version of this tutorial and made it available for purchase (www.gameplanit.com). Although there has been no evaluation of the effectiveness of Safe@Play, the tutorial has been used in numerous treatment programs in Canada and the U.S. as

well as in public awareness and prevention campaigns, in undergraduate psychology classes, at gambling conferences and in gambling venues.

Gambling Venue Information Centers. An innovative program in Manitoba, Canada is the Responsible Gaming Information Center, developed as a partnership between the Addictions Foundation of Manitoba and the Manitoba Lotteries Corporation. The center, located at a Winnipeg-area casino[7], is staffed by counselors who primarily provide guest education about how gambling works using the Safe@Play slot tutorial. When requested, Center staff provide on-site support and referral for guests, consult with casino staff and managers, and participate in interviews with guests seeking voluntary exclusion. The Center holds Responsible Gaming Open House/Awareness Weeks on the gaming floor of the casino several times a year. At each of these four-day events, approximately 1,000 people will watch the slot tutorial as it is projected on a large screen and obtain questionnaires and handouts. Developed as a pilot project, the program is now permanent and will be implemented in the other Winnipeg-area casino late in 2004 (Mehmel, personal communication).

A similar program in Victoria, Australia is the Crown Casino Customer Support Center. This industry-initiated effort involved the establishment of a separate facility within Crown Casino in Melbourne where patrons who are concerned about their own or someone else's gambling can obtain information and referrals as well as professional counseling on-site and access to a voluntary exclusion program (Crown Casino, 2004).

Another recent, innovative program involves a partnership between Global Cash Access (GCA) and the National Council on Problem Gambling. GCA is the leading provider of cash access and customer financial management technologies in gambling venues in the U.S. The GCA/NCPG Responsible Gaming Partnership includes signage as well as a recorded audio message at ATMs and other key locations, encouraging sensible play and publicizing the Council's 24-hour toll-free helpline number. Two-thirds of GCA's ATMs have telephone handsets with direct connection to GCA's 24-hour call center which is linked in turn to the National Council on Problem Gambling's helpline. Customers can be linked immediately to a problem gambling counselor, if required. Finally, the program provides an option for customers to block access to credit card cash advances (Self Transaction Exclusion Program, STEP).
The convergence of financial and gambling technology (e.g., ticket-in ticket-out technology[8]) and growth in casino 'responsible gaming programs' suggests a possible future developmental direction. Self-service 'kiosks' are becoming ubiquitous on gambling venue floors, providing integration of an increasing array of gambling and financial services. Patrons can redeem tickets and loyalty card points, check balances for loyalty programs, obtain cash from bank accounts and credit cards, purchase show tickets and make restaurant and spa reservations, and learn to gamble in a friendly, non-intimidating fashion. Kiosks appeal to gambling operators because of the ability to reduce marketing expenses and track marketing program effectiveness in real time (Green, 2004). For a relatively small additional investment, gambling operators could include 'responsible gaming' information and access to problem gambling services directly to customers

[7] Casinos in Manitoba are wholly owned by the provincial government.
[8] Ticket-in ticket-out (TITO) technology involves receiving a ticket when cashing out on a slot machine. This ticket can then be inserted in another machine for continued play or exchanged for cash.

from such kiosks. The move toward incorporating responsible gambling features on kiosks would be hastened if governments required such implementation.

'Moderate Gambling' Guidelines. Since the 1980s, numerous programs have developed internationally to encourage moderate drinking behavior. One consequence of such an approach has been the emergence of international definitional standards of 'moderate drinking' and the development and broad dissemination of moderate drinking guidelines (Dufour, 1999). In a recent conference presentation, Currie (2004) employed prevalence survey data from five Canadian provinces and the Canadian national survey to calculate low-risk parameters for 'moderate' gambling frequency, duration and spending. Maximums for the Canadian adult population were: gambling no more than two to three times per month, gambling no longer than 60 minutes per session, and spending no more than $75 (CDN) per month and no more than two percent of monthly income. While Currie cautions that those parameters may not be internationally generalizable, the approach of using population data to determine acceptable levels of gambling participation is both interesting and promising.

In another recent conference presentation, Weinstock (2004) used a similar approach to identify behavioral indicators of problem gambling in a sample of college students. While these data also have limited generalizability, several strong behavioral indicators of problematic gambling among college students were identified, including gambling more than 1.5 times per month and risking more than 9% of monthly income.

3.6. Training Programs for Professionals and Industry

Beyond programs that provide specialized problem gambling services, mental health, and addictions treatment professionals rarely screen for gambling involvement or gambling problems among their clients. Even when a gambling problem is identified, non-specialist professionals are often uncertain about the appropriate referrals to make or what treatments to recommend. Unfortunately, while specialized training, certification and credentialing are increasingly available, there is little uniformity in standards and requirements and little reciprocity with other counseling professions.

3.6.1. Training Programs for Health Professionals

Many governments internationally fund efforts in awareness raising aimed at a wide range of audiences including the general public, targeted at-risk groups in the population such as youth and older adults, employees in the major gambling industries, employees of government agencies, and government regulators and legislators. Generally, these efforts are conducted by staff of health and social service agencies or are contracted out to non-governmental agencies.

For example, in Victoria, Australia, 13 Community Education and Gaming Facility Liaison Officers (CEGFLOs)—fulltime employees of social service agencies around the state—have primary responsibility for local community education as well as liaison with gambling industry venues and personnel (Jackson et al, 2002). In South Africa, the National Responsible Gambling

Program coordinates efforts by relevant government agencies, including the Department of Social Services, the Department of Education, and the Department of Finance to raise awareness of problem gambling at public events, such as health and school fairs. Also in South Africa, the education and training branch of the National Responsible Gambling Program provides training for all levels of workers in the gambling industry, funds newspaper and radio advertising and a substantial program of presentations to politicians, journalists, religious leaders and community groups (Abbott et al, 2004c; Arnold et al, 2003). Between 2000 and 2002, the equivalent of $2 million per year allocated for this program paid for approximately 19,000 calls to the helpline as well as 220 sessions of outpatient treatment per month and inpatient treatment for six individuals. Informational brochures were distributed in post offices, doctors' offices, schools and senior centers, an average of 200 media interviews were conducted per year and an average of 12 presentations per month were made to government ministers, government departments, regulators and community and religious groups.

In the U.S., awareness training is most often carried out by one of the state affiliates of the National Council on Problem Gambling. Many of these non-governmental organizations receive funding from their state governments, gambling operators and/or private donors to establish 'speakers bureaus' or other organized methods to disseminate information about problem gambling to community-based organizations, neighborhood associations, adolescent, seniors and women's groups, community mental health and addictions agencies, fraternal organizations, and professional and business associations.

One example is the Nevada Council on Problem Gambling, which maintains a Community Outreach Program as well as a Speakers Bureau. The Speakers Bureau is made up of professionals from the fields of medicine, mental health, education, public policy and industry as well as lay people with personal experience with the issue of problem gambling. This facet of the program is designed to reach out into the community with resources appropriate to media, businesses, professional organizations, community organizations, schools and institutions of higher education. The Community Outreach Program disseminates information about problem gambling to nonprofit and social service agencies at health fairs, conferences and workshops. Another example is the Florida Council on Compulsive Gambling which provides training and resources to legal and judicial organizations, corporate audiences, gambling operators and community organizations, including clergy, neighborhood associations, educators, health insurance and managed care providers, recreational programs, fraternal organizations and others. In New Zealand, the nonprofit Problem Gambling Foundation, although primarily a problem gambling counseling service, also conducts presentations and provides resources to health professionals including general practitioners, alcohol and drug workers and mental health workers, helping organizations, schools and law enforcement personnel. The Foundation's 'local government' teams work directly with community groups to mobilize interest in problem gambling issues, help organize action groups, and assist in presenting petitions and information to local governments. At the end of August 2004, the Foundation played a major role at a two-day conference on problem gambling issues for community and activist groups. In addition to learning more about how to lobby local governments to enforce regulations on gambling venue signage, time limits and licensing conditions, delegates discussed needs for independence, accountability and transparency in the management of gambling revenues as well as needs for increased awareness by community groups of their sources of funding. The final outcome of the

conference was an agreement to develop a coordinated plan to hold a national 'gamble-free' day in 2005 to raise awareness of problem gambling.

3.6.2. Training Programs for Other Professionals

As far as we have been able to determine, beyond the efforts detailed above, very little education or training in relation to problem gambling has been developed in the United States for educators, law enforcement or nonprofit organizations. Two recent developments in relation to the criminal justice system are worth mention.

In August 2001, Judge Mark Farrell, a senior justice in Buffalo, New York State, implemented the first Gambling Treatment Court. Using protocols developed in drug and alcohol treatment courts throughout the U.S., Judge Farrell has applied theories of therapeutic and restorative justice to the concept of problem gambling. After an initial screening by court staff to determine eligibility, these typically non-violent offenders are required to sign a contract, or pre-plea agreement, that permits them to avoid jail time, obtain treatment for their gambling problems, continue to support their families and make restitution for their gambling-related offenses. Offenders who enter the program must complete intensive therapy, attend self-help meetings and appear regularly in court to report on their progress. Treatment is provided by the local Jewish Family Services organization which has several gambling counselors on staff (Schneider, 2003). Judge Farrell has been invited to speak to judicial organizations in California, Florida, Illinois, Indiana, New Jersey and Oregon interested in establishing similar programs (Shepard, personal communication).

In Louisiana, the Attorney General has introduced a pilot project to divert individuals charged with non-violent crimes directly related to gambling problems to treatment rather than jail. In contrast to the Gambling Treatment Court, this project diverts individuals prior to adjudication of their cases. The project is a collaboration between the Attorney General and the District Attorneys of Louisiana, the Louisiana Association on Compulsive Gambling and the Louisiana Office for Addictive Disorders. The primary goals of this innovative project are restitution, decreased recidivism, relief of crowded dockets and reduction in number of persons incarcerated. The project is also intended to reduce the effects of problem-gambling related crime on the families of problem gamblers, employers and co-workers.
The project will be offered statewide on a voluntary basis. District Attorneys and their staff will complete an initial screening to determine if a person's crime is directly related to gambling. If so, the District Attorney will make a referral to the pilot program. A counselor from the Louisiana Association on Compulsive Gambling will review the case and assess the offender for participation in the program. If deemed eligible, the offender must sign an agreement with the District Attorney and enroll in the state's voluntary exclusion program. If the offender does not complete the diversion program, he/she will be returned to the judicial system for further proceedings. With the cost of incarceration averaging approximately $36,000 per year per person in Louisiana and with treatment costing less than $100 per day per referral, the project promises to be a highly cost-effective approach to minimizing the impacts of problem gambling (Middleton, personal communication).

3.6.3. Industry Staff Awareness and Training

During the 1990s, a growing number of gaming companies worldwide began to introduce measures to increase staff awareness of problem gambling and to establish programs allowing customers to exclude themselves from gambling venues. In some cases, these steps were taken voluntarily; in other jurisdictions, government regulators mandated these actions although the programs are typically funded by gambling operators. Although these programs have been introduced in numerous jurisdictions, the legal and ethical issues related to 'consumer protection' in the various sectors of the gambling industry remain largely unexplored.

Casinos. In 1989, Harrah's Entertainment began the first employee training program to address the issue of underage gambling. The program, Project 21®, is centered on three basic themes including the notion that *all* casino employees (and not just gaming floor staff) must take responsibility for identifying underage individuals, the importance of educating the public about age restrictions for different types of gambling, and the consequences of underage gambling for the operator and the underage individual. Initially, Project 21® relied on an in-house approach aimed at employees and customers utilizing posters, brochures, employee training, paycheck 'stuffers,' internal publications and a back-of-house advertising campaign. In 1992, Harrah's began working to reach young people directly by engaging high school students in a competition for college scholarships. To compete, students submit original essays, posters or public service announcements focused on increasing community awareness of the Project 21® themes. Participating casinos award student scholarships of up to $2,500. In 1995, Harrah's began licensing Project 21® to state gaming associations as well as casinos in the U.S. and Canada. Currently, casino properties in 14 states participate in some form of the Project 21® program (American Gaming Association, 2004).

Operation Bet Smart® is another Harrah's training program designed to inform employees about the corporation's commitment to responsible gambling and Harrah's policies and procedures (Harrah's Entertainment, 2004). Operation Bet Smart® was developed to increase awareness among casino employees in how to recognize problem gamblers and to provide them with techniques to offer assistance. This program includes prominent signage, that is, back and front-of-house signage with local problem gambling helpline telephone numbers as well as brochures posted at cashier cages and other strategic locations in the corporation's casinos. Similar initiatives have been adopted by other casino companies and by state lotteries (e.g., Connecticut and New York). Other gambling industry employee training programs include:

- *When the Stakes Are Too High: Understanding Problem Gambling* (California Council on Problem Gambling).
- *Advancing Responsible Gaming*, *Underage Gambling: A Bad Bet for the Gaming Industry* and *Compulsive Gambling: Red Flags and Referrals* (North American Training Institute).
- *When the Fun Stops: Problem Gambling Awareness Training* (Nevada Council on Problem Gambling)[9].

[9] This program is recognized by the Nevada Gaming Control Board as meeting its regulatory requirements for employee training on problem gambling.

Video Lottery Terminal (VLT) Retailers. In 1998, the Addictions Foundation of Manitoba (AFM) began development of the Manitoba Problem Gambling Customer Assistance program for owners and employees of establishments offering video lottery terminals (Smitheringale, 2001). This program aims to increase understanding of problem gambling, identify on-site behaviors indicating that customers are experiencing gambling problems, increase knowledge of resources for problem gamblers in the community and provide strategies for assisting customers with problems. The course content was developed by AFM staff with input from focus groups of Gamblers Anonymous members and the 400 participants in the pilot phase training. Following the 1999 pilot phase, the training program became mandatory for employees at all VLT sites. During the following year, 20 AFM trainers traveled to communities throughout the province and delivered the training free of charge to nearly all VLT sites with five or more employees. A centralized database tracked course attendance and site compliance and generated personalized certificates of attendance. The Manitoba Gaming Control Commission was responsible for enforcing VLT site compliance with this mandated training through their inspectors and non-compliance penalties.

As of August 2001, 1,550 participants from 623 sites had taken the training and AFM staff had delivered 160 training sessions in 45 locations across the province. All participants completed a course evaluation at the conclusion of the training session. Participants reported significant increases in knowledge of problem gambling, learned a variety of skills to assist customers experiencing problems with their gambling, and found the course interesting and informative. Nearly all of the participants (98%) felt that they would use the information they had learned and 99% said they would be able to provide assistance to a customer who was concerned about their gambling and asked for help (Smitheringale, 2001).

A similar program was implemented by the Nova Scotia Gaming Corporation in 1999 to train video lottery terminal retailers about responsible gambling. The goal of the program is to provide VLT retailers and their staff with the skills, knowledge and attitudes to implement and maintain responsible gambling guidelines and procedures. To date, no evaluation of this program has been published.

Ladouceur et al (2004) recently completed an evaluation of a two-hour awareness promotion workshop aimed at VLT retailers in Quebec, Canada. The awareness program, titled 'As Luck Would Have It,' provides retailers with information about chance and randomness, links between misunderstanding the concept of chance and excessive gambling, the signs and symptoms of the disorder, and how to intervene in cases where retailers decide to do so. The results of the evaluation showed that retailers developed a better understanding of problem gambling, felt more capable of coping with problem gamblers and more confident of choosing the appropriate moment to intervene. In a follow-up phase of the evaluation, retailers who had attended the workshop were significantly more likely than retailers who had not attended to report that they had approached a problem gambler and had discussed how to help problem gamblers more often.

Pari-mutuel Operators. In Connecticut, the Committee for Gambling Awareness was formed in 1999 to promote awareness of problem gambling among employees of the full range of gambling operators in Connecticut. A major project of the CCGA was the development of a training and certification program for gambling facility supervisors. Training videos were

produced specific to lottery and pari-mutuel supervisors, while the casino-specific material was posted on a corporate Intranet site. In developing the pari-mutuel video, scenarios were created by management representatives of the pari-mutuel facilities and then edited by counseling professionals. A training manual was developed and trainings were held at three different sites around the state (Steinberg, 2002).

An Emerging Option: Continuing Education. In 2004, the Manitoba Lotteries Corporation announced the establishment of the Canadian Gaming Education Forum, in partnership with the University of Nevada, Reno. The goal of these bi-annual gambling employee training events is to provide courses on gambling management for Canadian gaming professionals. Each one-day course counts as six hours of instruction toward the 93-hour requirement for a certificate in gaming management from the University of Nevada, Reno and costs approximately $600 (CDN). While the majority of courses focus on gaming operations (e.g., accounting and auditing, marketing, security and fraud), the latest announcement includes a course titled 'Strategies for Dealing with the Gaming Patron' including problem gamblers (Manitoba Lotteries Corporation, 2004). An announcement on the University of Nevada, Reno website indicates that the overall gambling management program is now available to California casino employees.

In a similar vein, the National Center for Responsible Gaming (NCRG) is currently working with the Institute for Research on Pathological Gambling and Related Disorders to create an employee responsible gaming certification program. Scheduled to debut in 2005, the program will teach employees about 'disordered' gambling and train them to encourage customers to gamble more responsibly (National Center for Responsible Gaming, 2004).

3.6.4. Host Responsibility or Server Interventions

Evidence exists internationally for the effectiveness of 'host responsibility' training programs for servers of alcoholic beverages in decreasing alcohol-impaired driving (Shults et al, 2001). One element of these programs is education in how to identify signs of intoxication. A significant challenge in the development and implementation of 'host responsibility' training programs for gambling venues is that there are few obvious physical signs of gambling impairment which servers could be trained to recognize.
In the process of developing a training program for gambling staff to deal with potential problem gambling behaviors, the Australian Gaming Council solicited the opinions of a group of prominent psychologists and practitioners in the field of problem gambling regarding their views on criteria that might be used in gambling venues to identify problem gamblers (Allcock et al, 2002). The conclusion of the group was that clear, definitive behaviors caused by gambling problems cannot be reliably described. There was consensus, however, that some behaviors are likely to indicate distress related to gambling problems.

As Allcock et al (2002) note, there is a long way to go in developing empirically tested models of behavior indicative of problem gambling. Their recommendations are that gambling venue staff should receive information and training regarding potential behaviors and situations with which they may be required to deal. House policies should clearly outline and delineate roles and responsibilities of different staff and appropriately trained managers should be responsible

for handling difficult situations. Finally, senior staff should be knowledgeable about, and have a working relationship with, treatment providers in their community or region since this can help improve patron access to treatment and provide information and resources to the venue.

3.7. Helplines

Helpline services are a key component of problem gambling prevention which shade over into early intervention in some jurisdictions. In North America, helplines currently operate in 35 states and all of the Canadian provinces. Approximately 60% of these helplines receive the majority of their funding from their respective governments. Additional funding is received from a variety of sources, including the gambling industry, private corporations and membership dues paid to state councils on problem gambling.

While some states operate their own helpline numbers, others use the National Council on Problem Gambling number (800-522-4700) or the number maintained by the Compulsive Gambling Council of New Jersey (800-GAMBLER). In some states, only one number is advertised. In other states, several different numbers may be advertised by state problem gambling councils, state agencies and gambling operators.

The NCPG helpline serves the entire country, including states that do not have a state-operated helpline. This helpline is used by many states either as their local helpline or to provide backup coverage for local services. The NCPG helpline offers confidential crisis counseling, information and referrals to callers. This helpline routes callers to call centers in 25 different states.

Table 4 provides information about the number of calls received annually by the NCPG helpline:

Table 4: Calls Received by the NCPG Helpline

	Total	Monthly Average
2000	115,699	9,642
2001	144,455	12,037
2002	126,181	10,515
2003	145,470	12,123
2004*	139,972	15,552

* Through September, 2004.

The NCPG helpline is funded by membership dues and corporate donations from the gambling industry. The annual budget for the NCPG helpline can be quite variable and depends on long distance charges as well as coverage for states without any problem gambling resources. In 2004, the NCPG budgeted $59,200 to cover helpline expenses.

Bensinger, DuPont & Associates (BDA) is a private nonprofit company that provides problem gambling helpline services for several states, including California. The BDA helpline is staffed by counselors with Masters degrees in psychology, social work or counseling. The majority of these counselors (80%) are certified gambling counselors and the remaining 20% are in the

process of obtaining certification. In conjunction with Language Line Services, an international specialist translation organization,[10] BDA is able to offer immediate crisis intervention as well as referral services in 150 languages. Demographic and gambling information obtained from callers who are routed to its call center is valuable in planning problem gambling services, including public awareness and education activities as well as treatment.

Call volume and data collection vary considerably across helplines. Some helplines that are advertised nationally or provide coverage services for other states report several hundred calls per week (National Research Council, 1999). Internationally, data from helplines in jurisdictions with large numbers of electronic gambling machines in casino or non-casino locations typically report that about half their callers are women. These callers predominantly have problems with gambling machines (Jackson et al, 1999; Ladd & Petry, 2002; Paton-Simpson, Gruys & Hannifin, 2004; Potenza et al, 2001; Tavares et al, 2001). In Great Britain, where the availability of casinos and electronic gambling machines remains limited, callers to the helpline are overwhelmingly male (89%) (GamCare, 2004).

3.7.1. Evaluating Problem Gambling Helplines

Although a helpline is the first, and sometimes the only, effort made to provide assistance to problem gamblers and their families, little is known about the impact and effectiveness of helpline services. In one early, unpublished evaluation, a small, representative sample of helpline callers in Minnesota was contacted six months after their initial call (Winters, Bengston & Stinchfield, 1996). Among the 25 individuals in the sample who had identified themselves as having a gambling problem, 41% reported not gambling at all in the past six months but 48% reported gambling daily or weekly in the same period, most often on gambling machines, pull-tabs, and lottery games. Although nearly half of these individuals were still gambling regularly, 78% of the group reported overall improvement in their gambling-related problems. Seven out of ten respondents had sought additional help after contacting the helpline, including Gamblers Anonymous (62%) and professional treatment (41%).

In Great Britain, GamCare, the primary organization providing problem gambling services in that country, runs a helpline that provides information, referrals and crisis intervention by trained counselors. In 2003, GamCare received 29,898 calls with the majority (73%) from new callers. In 2002, GamCare funded an independent pilot evaluation of its helpline involving interviews with 42 individuals who had used the service. Eight in ten respondents (86%) reported a decrease in their gambling, 14% reported no change, and none reported an increase. Callers reported improvements in well-being (63%), financial situation (60%) and relationships (52%). Satisfaction with the service was high, with 82% of callers reporting that they got what they wanted from the call and over 50% saying that their own understanding of problem gambling had improved as a result (GamCare, 2002). Although the sample size was small, the results of this study suggest that this service meets the needs of problem gamblers and results in improvements for the majority of callers.

[10] Language Line Services is a California-based company that provides over-the-phone and short document interpretation to public and private entities worldwide as well as interpreter testing, training and certification.

Information from problem gambling helpline callers is helpful in tracking impacts of changes in the availability of legal gambling over time. For example, when the New Zealand national problem gambling helpline commenced in 1993, the proportions of callers reporting problems with electronic gambling machines and track betting were quite similar and few other forms of gambling were mentioned (Sullivan et al, 1994). Casinos were introduced in New Zealand in the mid-1990s and non-casino gambling machines became widespread in this same period. By 1999, 64% of new callers to the helpline indicated that non-casino gambling machines were their primary gambling mode. A further 13% of callers reported casino gambling machines as their primary mode of gambling. Track betting accounted for 14% of new callers' preferences in 1999, a marked reduction from 1993. In 2003, the proportion of new callers indicating that non-casino gambling machines were their primary mode of gambling had increased to 84% while the proportion identifying casino gambling machines dropped to 8% and the proportion identifying track betting fell to 4% (Paton-Simpson et al, 2004).

Recent preliminary data suggest that a relatively cost effective method for improving helpline referrals is to provide a direct link to counseling providers (Marotta, 2004; Moran-Cooper, Kruedelbach & Biller, 2003). In West Virginia, the helpline provides some immediate crisis counseling, arranges appointments with a counselor while the caller is on the telephone, and follows up with callers to encourage them to keep these appointments. Although calls to the West Virginia helpline last substantially longer than for other helplines, follow-through rates for first appointments are exceptionally high. GamCare in Great Britain provides a similar service, connecting helpline callers directly to counselors if desired and has reported similar experiences with the average duration of calls (Arnold et al, 2003).

While funding a helpline is a popular strategy for addressing problem gambling, a number of lessons for ensuring effectiveness and maintaining satisfaction have been learned over the past decade. One significant challenge is the development of adequate networks of problem gambling counseling and referral services to which helpline callers can be referred. A related challenge is the need to ensure that helplines have timely and accurate information about problem gambling services in local areas. This includes provider competencies, the nature of the services offered, fees and types of clients served. Helpline staff need to be trained in crisis intervention, in working specifically with problem gamblers and their families and in screening for comorbid disorders. Helpline staff also need to be able to refer callers to a range of services, including Gamblers Anonymous, Gam-Anon, problem gambling counseling, credit and financial counseling and emergency mental health services. Finally, it is essential that helplines operate 24 hours per day and 7 days per week rather than only during business hours.

3.8. Treatment

Across the board internationally, there is little help available to problem gamblers or their families. In this section of the report, approaches to the treatment of problem gambling from an international perspective are reviewed. The focus is on the few rigorous formal evaluations that have been completed of problem gambling treatment. Any review of research on treatment and intervention options for problem gamblers highlights a broad range of issues and challenges for the future. However, from a policy perspective, the clearest finding is that funding for the

evaluation of problem gambling interventions has been so scarce that little can be said with confidence about the effectiveness or efficacy of such efforts.

3.8.1. The Development of Problem Gambling Treatment

The earliest and for many, still the only, help for problem gambling was Gamblers Anonymous (G.A.). Gamblers Anonymous was first established in California in the 1950s and has grown from a few chapters in the early 1960s to thousands of chapters throughout the United States and internationally (Browne, 1993). Like other 12-step fellowships, G.A. has no formal membership process or dues requirements; the only requirement for membership is a desire to stop gambling. Long-time members of G.A. serve as sponsors to newcomers and anonymity is emphasized. Like other twelve-step programs, G.A. is not allied with any sect, denomination, political organization or institution, does not accept outside donations and does not engage in lobbying.

Gam-Anon, a fellowship for friends and families of problem gamblers, was first chartered as a nonprofit organization in 1960 and is now headquartered in New York. Although there are fewer Gam-Anon than Gamblers Anonymous meetings, there are still hundreds of Gam-Anon meetings worldwide. A friend or family member can attend Gam-Anon even if the problem gambler is not attending G.A. Like G.A., membership in Gam-Anon is voluntary and open to anyone affected by gambling problems. There are no fees for membership and anonymity is a tradition. Similar to G.A., Gam-Anon does not accept outside donations or grants.

Professional treatment for individuals with gambling problems has generally been limited to individuals who are formally diagnosed as 'pathological gamblers.' Until the 1980s, psychoanalysis was the most common form of treatment for pathological gamblers. The psychoanalytic approach requires a long-term commitment to self-exploration and this approach to pathological gambling treatment was, and still is, typically offered by private therapists or in residential or inpatient treatment programs such as those established by the Veterans Administration in the early 1970s. There have been no controlled or randomized studies exploring the effectiveness of this approach for treating pathological gamblers. The changing organization of medicine internationally, as well as major changes in health insurance coverage in the U.S., has made it more difficult to offer psychoanalytic treatment for all disorders including pathological gambling.

Although behavioral treatment methods have been used with pathological gamblers since the 1960s, this approach attracted particular attention in Australia where gambling liberalization first began to emerge. Behavioral treatment methods focus on modifying problem gambling behaviors using basic principles of classical conditioning or operant theory. Examples of behavioral methods include aversion treatment (such as the application of a small electric shock while the client reads about a gambling situation), imaginal desensitization (a two-step procedure in which patients are first taught how to relax and then are asked to use these relaxation techniques when they are imagining scenes related to gambling that they find arousing) and behavior counseling. Evaluation of behavioral treatment methods has been limited by small sample sizes and the lack of control groups. The most rigorous evaluations of behavioral

treatments come from Australia where Blaszczynski and colleagues carried out a series of studies of behavioral techniques (Blaszczynski et al., 1991; McConaghy et al., 1983, 1988, 1991).

In the mid-1990s, cognitive and combined cognitive-behavioral treatment approaches emerged as promising treatments for pathological gambling. While cognitive treatments are increasingly used to treat other addictive disorders, intuitively these approaches seem particularly appropriate in treating a disorder that is fundamentally characterized by cognitive distortions. Based on the social learning model of problem gambling, cognitive treatments attempt to re-educate problem and pathological gamblers to understand their irrational expectations about gambling as well as core beliefs about illusions of control (Ladouceur et al, 1994).

Cognitive behavioral therapy (CBT) emphasizes the role of thinking in how people feel and act. CBT tends to be briefer than other types of psychotherapy with clients usually attending between eight and sixteen sessions. CBT often includes homework assignments that clients complete in between sessions with a counselor. This form of psychotherapy tends to rely on an instructional approach with specific techniques and/or concepts forming the focus of each session. In the treatment of problem gambling, cognitive treatment strategies aim to counteract underlying irrational expectations about achieving success at gambling as well as core beliefs about illusions of control and the notion that gambling is a solution to financial problems. Rugle et al (2001) note that cognitive treatment is rarely offered alone and is usually supplemented with behavioral strategies including problem solving training, social skills training, self-monitoring and stimulus control.

Among the strategies employed in the treatment of pathological gambling, cognitive-behavioral approaches have received the most evaluative attention. Major studies in Quebec, Canada and in Spain demonstrated that cognitive-behavioral treatment yielded better outcomes than wait-list or behavioral-alone conditions (Echeburúa et al, 1996; Sylvain et al, 1997). A similar controlled study of cognitive-behavioral therapy funded by the National Institute for Mental Health is presently underway.

Internationally, there is an increasing range of treatment options available for problem gamblers, including hospital inpatient programs for individuals who are seriously depressed or suicidal, and outpatient programs in mental health and/or addiction settings that offer individual and group counseling. Treatment for pathological gambling is primarily delivered on an outpatient basis and therapists employ a wide range of approaches. Inpatient care is limited to patients with severe crises or comorbid disorders such as suicidality and major depression. Most treatment for pathological gambling is delivered as a specialized track within existing substance abuse programs and is typically provided by a combination of specialized and non-specialized providers (Jackson, Thomas & Blaszczynski, 2003; Lesieur, 1998; Volberg et al, 1996). In the United States, although there is growing acceptance of harm reduction and controlled behavior approaches for other addiction problems, most gambling treatment programs continue to strongly favor abstinence (Rosenthal & Rugle, 1994; Rugle, 2004b). Referral to Gamblers Anonymous or Gam-Anon is a frequent adjunct to formal treatment and further fosters the strong abstinence approach that dominates problem gambling treatment in the United States.

Pharmacotherapeutic Approaches. The latest approach to treating pathological gambling involves the use of pharmacological agents and rests heavily on clinical experience treating other disorders that share a similar symptomatology or appear to have overlapping neurochemical mechanisms (Grant, Kim & Potenza, 2003). Although a variety of drug treatments are being tested for application to gambling-related problems, there is no pharmacotherapy protocol currently approved specifically for the treatment of gambling problems. Nevertheless, the role of pharmacotherapy in the treatment of pathological gambling shows significant promise (Korn & Shaffer, 2004).

The classes of drugs that appear to have the most promise in the treatment of pathological gambling include opioid antagonists, selective serotonin re-uptake inhibitors (SSRIs) and mood stabilizers. Opioid antagonists (e.g., naltrexone) are used in the treatment of alcohol abuse and are effective in reducing cravings and the pleasurable effects of alcohol. Researchers at the University of Minnesota reported significantly reduced gambling urges among pathological gamblers treated with naltrexone (Kim et al, 2001). SSRIs (e.g., fluoxetine, fluvoxamine, paroxetine, sertraline, citalopram) are used in the treatment of obsessive-compulsive disorders, anxiety disorders and depression. The rationale for using those medications is their assumed effect on reducing obsessive preoccupation with gambling as well as the depression or anxiety that tends to accompany pathological gambling in individuals seeking treatment (Hollander et al, 2000; Rugle et al, 2001). Mood stabilizers (e.g., amitriptyline, divalproex, carbamazepine, lithium carbomate) are used in the treatment of bipolar disorder. It is theorized that those medications may be effective for pathological gamblers with concurrent mood disorders, such as mania and depression. Other drugs, including the anti-psychotic olanzapine, the selective serotonin receptor antagonist ondasetron, the norepinephrine and dopamine modulator buproprion, and even methylphenidate (Ritalin), used in the treatment of attention deficit disorder, have been utilized in small studies or in single cases.

The evidence to date supports the development of specific pharmacotherapies for use with pathological gamblers and this is currently an area of active clinical research (Korn & Shaffer 2004). However, dosages for opioid antagonists and SSRIs that are effective with pathological gamblers are much higher than dosages recommended for alcohol treatment or treatment for depression and may be contra-indicated in cases where there is any degree of liver disease. It is also important to take account of a likely substantial placebo effect in considering the results of those pharmacological studies (Rugle et al, 2001).

3.8.2. How Effective Is Problem Gambling Treatment?

Many approaches have been used to help problem gamblers overcome their gambling and related problems. Reference has been made to the major forms of psychotherapy, counseling and mutual help involved and detailed accounts of these interventions are available (Blaszczynski & Silove, 1995; Gambino & Cummings, 1989; Lopez-Viets & Miller, 1997; National Research Council, 1999; Petry & Armentano, 1999; Walker, 1992, 1993). Reference has also been made to recent pharmacological treatments.

Although there are many accounts of problem gambling interventions, little is known about their effectiveness and even less is known about the *relative* effectiveness of different approaches. All of the general approaches and most of the more specific interventions used with problem gamblers have been employed previously with other mental health problems including addictive disorders. Many have been more adequately evaluated in these other contexts. To some extent this wider outcome evaluation literature has assisted the selection of interventions to use with problem gamblers. More careful examination of this literature could further help with the adaptation and development of interventions that are likely to be efficacious. Petry (2002) has taken this approach with respect to effective treatments for substance use disorders, describing psychotherapeutic and pharmacological treatments that could be translated to problem gambling. Her article also highlights the overlap between substance use disorders, pathological gambling and some other mental disorders and the importance of evaluating combined interventions, including combinations of psychotherapy and pharmacotherapy.

Despite overlap and similarities between pathological gambling and some other mental disorders, there are also some unique features that may be critical to understanding gambling disorders and designing effective treatments (Rosenthal & Rugle, 1998). While clinicians and policy makers can often appreciate the similarities between pathological gambling and substance dependence, there is often only a limited acceptance of these significant differences and their effect on treatment and prevention. Little research has been done to examine differences between these disorders.

While the few existing problem gambling outcome studies have serious deficiencies, review of this research suggests that problem gamblers generally respond well and that many, probably most, benefit from treatment. It is less clear how durable these benefits are and how treated clients compare, long-term, with comparable problem gamblers who do not receive professional help. The few prospective general population studies conducted to date suggest that problem resolution or reduction is commonplace in the absence of treatment, especially among people with less severe problems and/or absence of comorbid disorders. This highlights the importance of including appropriate control groups in treatment evaluations, particularly no treatment or waiting list controls, adequately describing participants' problem severity and comorbidities, and incorporating long-term follow-up assessments.

Although most forms of evaluation provide some information about therapeutic interventions and their possible efficacy, demonstration of effectiveness requires the completion of randomized controlled trials (RCTs). Oakley-Browne, Adams and Mobberley (2004) conducted an extensive international search of published and unpublished sources to locate RCT evaluations of interventions for pathological gambling. Psychological, pharmacological, social, and systems approaches were eligible for inclusion. Only four studies, all psychological treatments, met RCT criteria. All four enabled comparison of an active treatment with a placebo or waiting list control group. These studies had small samples, were of poor methodological quality, varied in terms of outcome measures and in three cases had relatively short follow-ups. The reviewers concluded that behavioral (imaginal desensitization) or cognitive-behavioral interventions are of "modest to moderate benefit" and are "probably effective, in the short term."

Another review, using similar selection criteria, identified 11 RCTs (Toneatto & Ladouceur, 2003). In addition to the four studies cited above, pharmacological, minimal intervention and self-help trials were included in this review. As in the previous review, widespread design and methodological deficiencies were noted. While concluding that behavioral, cognitive and mixes of these approaches have the most empirical support and are more effective than no treatment, it was noted that it cannot be determined which specific type is most effective or whether these treatment approaches are more effective than others. There were also indications that, for most problem gamblers, short-term and less intense interventions were as effective as longer, more intensive therapies. Evidence for pharmacological efficacy was suggestive but not convincing from the studies considered. On balance, while interventions from the cognitive-behavioral spectrum appear to be the most promising and cost-effective, it would be premature to foreclose on other options. For the most part, other approaches have not been rigorously examined. They may or may not be found to be effective.

From the foregoing, it should be apparent that problem gambling outcome research is at an early stage of development. Most existing interventions have not been formally evaluated. While some appear to be effective, it is not clear how effective they are and how they compare in this regard with other interventions. Further refinement of cognitive, behavioral and pharmacological approaches is warranted. Other approaches, especially those that are currently widely used, also require evaluation. Further work is needed to standardize promising and effective interventions in manual form, thereby enabling independent replication of previous evaluations and enhancing service delivery. The conceptual rigor and methodological quality of future studies also requires enhancement.

Recently, Tavares, Zilberman and el-Guebaly (2003) examined whether there were approaches specific to the treatment of pathological gambling apart from approaches modeled after existing addiction treatment models. A review of published literature revealed that most of the cognitive-behavioral techniques used in the treatment of pathological gambling, including relapse prevention, problem solving and social skills training, are shared by gambling and addictions treatment. Treatment for pathological gambling does include some unique elements with respect to the way specific interventions such as cognitive restructuring, in vivo exposure and imaginal desensitization are implemented. The authors suggest that the blending of those new techniques into a multimodal addiction treatment program could improve outcomes for pathological gamblers entering treatment.

There is very little research on barriers to treatment for problem gambling. A recent comparison of active and resolved gamblers by Hodgins and el-Guebaly (2000) found that both groups were most likely to indicate that a desire to handle the problem on their own was the greatest factor in not seeking formal treatment. Other factors included ignorance of the availability of treatment, stigma, embarrassment or pride, and not feeling that they had a problem.

Another, more recent study used a telephone survey to explore attitudes in the general population in Queensland, Australia that might prevent a person from seeking treatment for a gambling problem (Rockloff & Schofield, 2004). The authors used exploratory factor analysis to identify five potential barriers to treatment. These included availability of services, stigma, avoidance, cost, and uncertainty about the effectiveness of treatment. Relative to those with few problems,

respondents who had numerous gambling problems, based on the SOGS, were more concerned about treatment costs, and the availability and effectiveness of treatment. The authors recommend future research to address the question of whether these factors predict treatment seeking behavior and how they interact with factors that indicate readiness to change as well as the cognitive distortions characteristic of problem gamblers.

3.8.3. Certification for Problem Gambling Treatment

Certification for health care providers gives a clear recognition that they possess a special expertise within a field of practice. Certification is a means for the public, third-party payers, private industry, and professional, legislative and regulatory bodies to identify providers with a demonstrated expertise. While many states have adopted a range of models for certification, at present most are based to some extent on one of three existing national certification boards. These national certification programs vary in criteria and rigor. Requirements for each of the national certifications are presented in Table 5.

Table 5: Criteria for Three National Gambling Counselor Certifications*

	American Compulsive Gambling Counselor Certification Board	American Academy of Health Care Providers in the Addictive Disorders Certified Gambling Specialist	National Gambling Counselor Certification Board
Sponsoring agency	Council on Compulsive Gambling of New Jersey	American Academy of Health Care Providers in the Addictive Disorders	National Council on Problem Gambling
Educational requirements	None	No specific criteria	H.S. diploma or equivalent
Training hours	142 hours (within 5-year period)	60 hours (gambling-specific training)	360 hours (includes 60 hours of gambling-specific training)
Supervision hours	180	None specified	Level 1 – 4 Level II – 24
Direct contact hours	750 (within 3-year period)	Candidate with MA: 3 years of treating addictions Candidate without MA: 5 years supervised experience	Level 1 – 100 Level II – 2000
Other requirements	No active addiction in 2 years prior to application Attendance at 15 GA meetings	Written examination	Written examination CEU – 30 hrs (gambling-specific)
Fees	$200	$205	Application - $175 Examination - $175
Renewal interval	2 years	N/A	3 years

* From The Wager 5 (16) (April 18, 2000), Franklin, personal communication and Rugle (2004b).

3.8.4. Innovative Practice in Gambling Treatment

There are a growing number of examples of innovative practice in problem gambling treatment. Recent research suggests that problem gamblers at different levels of severity and/or with differing co-occurring psychiatric disorders may benefit from different types or levels of intervention. While natural recovery is most likely to be successful among at-risk and the least severe problem gamblers, another group of more severely affected problem gamblers or 'early stage' pathological gamblers may be able to limit or stop gambling with brief, or minimal, interventions. Self-help workbooks, telephone counseling and single face-to-face sessions with a counselor are new, brief early interventions that are just beginning to be assessed in Canada and Australia. While several of those interventions are described here, as yet, none have undergone rigorous evaluation.

Brief Interventions. Robson et al (2002) describe a brief, six-week cognitive-behavioral treatment for individuals with less severe gambling problems in Canada. The goals of the program were reductions in money and time spent gambling as well as in conflict at home, work and in the community. A one-year community trial of the *Gambling Decisions* program involving 223 individuals who responded to media advertisements and completed a screening interview was carried out. Individuals who endorsed five or more DSM-IV-based items were referred to an abstinence-based treatment program. Additional exclusion criteria included suicidality, other serious mental health problems, criminal sentencing, excessive spending on gambling and alcoholism. Elements of the program included self-guided therapy, minimal counseling or group-guided therapy and weekly counseling. Participants were permitted to select the elements of their program themselves. Sixty participants completed four assessments at pre-treatment, post-treatment, six months and twelve months. The results suggest that individuals who completed the program were able to reduce and maintain reductions in time and money spent gambling. While the results of this brief intervention are promising, further research is needed to determine if these changes were due to the program, to changes in the natural course of problem gambling or to self-directed adjustments in a group of individuals motivated to change.

Also in Canada, Hodgins, Currie and el-Guebaly (2001) compared three treatment conditions: brief motivational enhancement plus a self-help workbook, self-help workbook alone, and a waiting list control condition. Subjects were allowed to set their own goal in terms of either abstinence or level of controlled gambling. Eighty-four percent of participants reported a significant reduction in their gambling and 25% reported being abstinent in the six months prior to the 12-month follow-up. Subjects in the waiting list group reported less improvement than did subjects in the group that received motivational enhancement along with the workbook. Those receiving just the workbook did not differ significantly from either the waiting list group or the workbook plus motivational enhancement group. Participants receiving the workbook and the motivational interview but not those receiving only the workbook had better outcomes at three and six months. The advantage of the motivational interview and workbook condition was only maintained at 12 months by participants with less severe gambling problems. Nevertheless, the results suggest that a brief telephone and mail-based treatment for problem gambling can be effective. Unfortunately, the researchers do not report the percentage of participants who set an

initial goal of controlled gambling versus abstinence and whether a participant's initial goal had any effect on the outcome of the intervention.

A Chinese-language self- and group-help workbook was published in December 2004 by the Center of Behavioral Health in Hong Kong (Kwan, personal communication). The workbook is based on the Prochaska and DiClemente 'stages of change' model and is focused on individuals in the 'contemplation' stage. The workbook makes extensive use of metaphor in order to appeal to Chinese gamblers.

In a review of current practice in problem gambling services in Victoria, Australia, Jackson et al (2003) reviewed several innovative approaches under development in that state. For example, single session consultations (SSCs) are interventions lasting approximately two hours with the problem gambler and his/her family and involving a counseling team of four, with two counselors conducting the session and two observing. The approach was developed in an effort to maximize the impact of treatment in spite of the fact that many clients never attended more than one session of a planned series of counseling sessions. The approach is based on systemic family therapy and the 'stages of change' model. Families are followed up by telephone one month later to determine if the intervention has made a difference and whether the session should be supplemented with ongoing counseling. A small independent study of the intervention reviewed 15 SSCs with follow-up periods ranging from one to twelve months (Gavan & Slowo, 1997). Those followed up reported strong acceptance of the approach and high levels of satisfaction with the process and outcome.

Takushi et al (2004) provide a promising description of the development of a single session 'indicated prevention' intervention among college student gamblers in Washington State. 'Indicated prevention' approaches are designed to identify at-risk individuals displaying moderate problem behaviors and prevent progression to more severe disorder (Institute of Medicine, 1990). Takushi et al (2004) modified their single session alcohol-focused 'BASICS' intervention for gambling and added additional cognitive correction skills training as well as some unique features (e.g., a focus on those who gamble and drink at the same time, exploration of personalized normative feedback and personal expectations of reward from gambling that can be modified). A pilot study was conducted with 21 students aged 18-21 years who were screened for gambling problems and randomly assigned to an experimental or assessment-only control group. Assessments were conducted at baseline and at three months. At follow-up, both groups showed reductions in problem gambling behavior as well as in gambling participation (although this decline was greater for the experimental group). Participants in the experimental group were more likely than those in the control group to report a reduction in the number of episodes of drinking and gambling at the same time. While this study was too small to detect the small to moderate treatment effects common to prevention trials and was limited by the exclusive use of self-report, the researchers conclude that the approach has promise and they plan future, larger-scale longitudinal research on this intervention.

Telephone Counseling. We noted above (see Section 3.7) that some problem gambling helplines are developing more direct links between callers and counselors to improve referral rates. In this section, our focus is on the provision of individual and group counseling by telephone. Since its inception in England in the 1950s, telephone counseling has become an

increasingly common method for individuals and groups who experience a wide range of physical and psychological difficulties to access help without ever physically meeting with a therapist. Advantages offered by telephone counseling include relative anonymity and lack of physical presence which are likely to equalize power relationships and prevent intimidation, a supportive net between face-to-face counseling sessions, ease of communication as well as easier termination of the therapeutic relationship, increased access for those with limited mobility, and time and travel savings. The major disadvantage of telephone counseling is the absence of nonverbal cues.

A very recent study comparing the usual primary care for depression with telephone care management alone and with telephone care management enhanced by telephone psychotherapy supports the promise of this cost-effective approach to the treatment of mental health and addictive disorders (Simon et al, 2004). In this study, 600 U.S. adults beginning antidepressant treatment were randomly assigned to one of three conditions: medication with primary care follow-ups, typical care plus at least three 'care management' telephone calls from clinicians who checked on medication use and provided feedback, and typical care plus care management plus eight sessions of cognitive-behavioral therapy delivered by telephone. Six months after treatment began, 80% of those who received telephone psychotherapy reported a decline in depression symptoms, compared with 66% of the care-management group and 55% of those in the typical care group. Participants who received telephone psychotherapy also reported the highest levels of satisfaction with their treatment.

Coman and Burrows (2002) have reported on the development, implementation and evaluation of a telephone approach to problem gambling group counseling in Australia. Thirty-four individuals with self-reported gambling difficulties who sought help from the Victoria Mental Health Foundation or one of the Break Even problem gambling counseling services in the state participated in the study which consisted of six weeks of telephone group counseling using a cognitive-behavioral approach. Participants completed questionnaires that assessed gambling attitudes and behavior and psychological state at three points in time (pre-program, one week following completion and six months after completion). Analysis of the data showed that the telephone counseling program had a positive effect on participants' gambling attitudes and behaviors. There were significant reductions in overall life difficulties as well as in state and trait anxiety between the first and third time points. However, improvements in 'illusion of control' and 'control over gambling' at the second time point were not maintained at the third time point. The authors speculate that some dimensions of control are resistant to change or require more direct interventions. Limitations to this study include the small sample size and the self-selected nature of the participants. Nevertheless, the study suggests that agencies that provide group counseling for problem gamblers should consider group telephone counseling as an alternative or adjunct mechanism for service delivery.

The Centre for Addiction and Mental Health (CAMH) in Ontario provides telephone counseling after initial in-person visits, particularly when there are barriers to physical attendance. This program includes a six-module cognitive-behavioral therapy manual to guide telephone contacts with clients. Clients are not required to go through the modules in any particular order or at a specified pace. An evaluation of the program is presently underway with funding from the Ontario Problem Gambling Research Centre. Data are being collected at baseline, end-of-

treatment and at six months after completion. The focus of the evaluation is on whether this approach is effective and on what is the best way to deliver the service (Toneatto, personal communication).

The Gambling Helpline in New Zealand offers telephone counseling to callers who live in rural or remote areas as well as to those who are unwilling to engage in face-to-face counseling. The approach of the Gambling Helpline involves a multi-session, structured intervention based on a self-help manual, similar to the approach being taken in Ontario. A more general approach based on motivational interviewing and involving a smaller number of counseling sessions is sometimes used with callers, particularly those who are already engaged in face-to-face counseling (Clifford, personal communication).

Online Help for Problem Gamblers. People are increasingly seeking help for a variety of medical and personal problems through the Internet (Houston, Cooper & Ford, 2002). Dissatisfaction with traditional medical models and destigmatization of seeking peer support has fuelled this growth. There are online 'mutual aid' groups for all types of problems, even those that have no face-to-face counterpart, such as survivors of traumatic car accidents or victims of stalkers (King & Moreggi, 1998). Madara (1997) notes that online mutual aid groups offer social support, practical information, shared experiences, positive role models, helper therapy, empowerment, professional support and advocacy efforts as well as '24-hour' availability, selective participation, anonymity and privacy, and the possibility of recording transmissions for later perusal.

Online help for problem gambling can be difficult to find because of the many Internet gambling enterprises that are identified utilizing search engines to find sites using the term 'problem gambling online.' A recent search using the terms 'problem gambling' and 'gambling problems' identified 28 groups on MSN Groups; however, three of these groups were for online casino or sports betting sites, three were general addiction recovery groups, and one, was an anti-casino group. Similarly, Yahoo Groups lists 77 groups devoted to gambling in it's Addiction and Recovery section although only about half of the groups appear to be focused on gambling problems. Nevertheless, these two searches identified a substantial number of mutual aid groups for problem gamblers as well as for family members of problem gamblers.

The best-known U.S. online mutual aid group is probably CGHub which describes itself as 'an open cyber interactive recovery community' (http://cghub.homestead.com/). CGHub is not affiliated with G.A. but supports the efforts of that organization and subscribes to much of the G.A. philosophy. The website features an extensive information and resource page with links to G.A., Gam-Anon, state and private treatment programs, specialized websites such as Women Helping Women and Gamblinghelper.com, and publications. The website hosts asynchronous Email exchanges and open chat rooms at scheduled times as well as a 'pressure relief' financial forum. While the efforts and activities of CGHub have not been formally evaluated, it is likely that the benefits and challenges common to all online mutual aid groups characterize that website too.

A recent review by McGowan (2003) focused on the specialized website for women problem gamblers, Women Helping Women (WHW, http://www.femalegamblers.org). That website,

hosted by the Arizona Council on Compulsive Gambling, features a monthly newsletter designed to support women's recovery from gambling problems. WHW serves information and advocacy functions and all of its founding members belong to G.A. WHW is particularly responsive to the male-dominated dynamics of many G.A. groups and meets a need for gender-specific support expressed by many women in recovery.

Cooper (2004) reports on what is probably the first, and to date only, study of an online mutual aid group for problem gamblers. The study explored two issues: whether problem gamblers used an Internet website as their primary approach to recovery or to augment other, more traditional forms of help and whether there were benefits for problem gamblers in using the website. Fifty individuals who scored as problem gamblers on a standard screen were recruited via general solicitations or individual electronic invitations. A 41-item questionnaire was sent electronically to all individuals who agreed to participate and who met the inclusion criteria.

The participants were generally well-educated and evenly divided by gender. The group's gambling problems were substantial and 80% of the respondents reported seeking more traditional forms of help at some point in their lives, with half of them attending specialist treatment in addition to Gamblers Anonymous. Twenty percent of the sample had not attended either G.A. or formal treatment. That group tended to be younger, female, and had somewhat lower SOGS scores.

Despite a high rate of help-seeking, 78% of the sample indicated that they had avoided self-help or specialist treatment at some point with the majority citing stigma and reluctance to disclose personal information as their main reasons. Women were significantly more likely than men to say that inconvenience was an important reason for avoiding G.A. or formal treatment. Participants reported that the opportunity to 'lurk' (anonymously reading the postings of others without detection) was one of the most beneficial aspects of that form of help-seeking. Seventy percent of the participants claimed that the website had positive impacts on their gambling behavior, such as new personal relationships, peer support, help in times of crisis and maintenance of abstinence. Participants particularly appreciated the ease and immediacy of access to the website regardless of factors such as weather or geography and many also commented on the connection between their anonymity in that forum and their level of honesty. While online assistance may not be appropriate for all problem gamblers, Cooper (2004) argues that the Internet can play a unique role in the process of moving treatment-resistant 'pre-contemplators' into the 'contemplation' and 'action' stages of the recovery process. Griffiths and Cooper (2003) also argue that it is time for policy makers, system planners and treatment providers to consider the potential of the Internet for extending cost-effective help to problem gamblers as well as to other groups that avoid seeking help because of stigma and inconvenience.

Finally, another promising innovation arose out of the recognition that youth were not presenting in conventional problem gambling treatment programs in Victoria, Australia. The intervention was based on findings related to computer-mediated therapy, or the use of computers, to help build therapeutic relationships in remote areas and the use of Email as a particular vehicle for online counseling (Murphy & Mitchell, 1998; Sanders & Rosenfield, 1998). A six-month project to pilot an online support service for youth led to the development of the 'G-mail intervention'. The intervention is accessible, convenient and anonymous. A further benefit is that clients can

regularly re-access their communications with counseling staff by saving copies of Emails. Perceived limitations include the unknown effectiveness of the approach, the lack of non-verbal information available to either counselor or client, security and confidentiality, the need for ready access to computer and Internet facilities, and the lack of appropriateness of Email counseling for people with some complicating issues, such as suicidality, domestic violence or a psychiatric disorder which involves distortions of reality. Although that intervention was scheduled to commence operation in 2003, there does not yet appear to have been any evaluation of the service.

While online services are a promising avenue for providing help for problem gamblers and their families, there is as yet little information available to judge which of these approaches is most promising. As online services for problem gamblers develop, it will be important to assure that these services meet standards for ethical practice. Several organizations, including the British Association for Counseling and Psychotherapy as well as the American Counseling Association, have published guidelines for ethical practice in providing online counseling that may be of utility in this context.

3.8.5. The Stepped-Care Approach

Throughout this report, we have assumed that a public health approach, similar to the approach now widely adopted for minimizing harms related to alcohol and substance use (Sobell & Sobell, 1999), is the most promising approach to preventing problem gambling. Such a stepped-care approach encompasses a continuum of integrated services and includes harm reduction as well as abstinence-based alternatives. While brief motivational and education interventions have potential for assisting individuals with less severe gambling problems, more intense interventions, including outpatient, intensive outpatient, inpatient and residential services, are needed to address the needs of more severely affected individuals.

The State of Oregon is the only jurisdiction in the U.S. that has based the development of its problem gambling services on the stepped-care model (Moore & Marotta, 2004; Rugle, 2004b). Since 1999, problem gambling services in Oregon have been funded with a small proportion (1%) of general fund revenues received from the Oregon Lottery and managed by the Oregon Department of Human Services, Office of Mental Health and Addiction Services. Treatment services are provided free of charge to Oregon residents and providers are paid on a fee-for-service basis.

Problem gambling services in Oregon incorporate a wide range of interventions for individuals with all levels of problematic gambling and include prevention, harm reduction and multiple levels of treatment. These services include a professionally staffed, statewide gambling helpline, a statewide home-based, telephone-supported minimal intervention program, 18 community prevention programs, 26 treatment centers offering outpatient and intensive outpatient services, two statewide residential crisis-respite programs, a statewide workforce development program and an extensive program evaluation component. In 2004, an innovative program for outreach to incarcerated female gamblers was started.

Data from the Oregon problem gambling program evaluation show a steady increase in helpline calls and referrals as well as outpatient and inpatient treatment admissions. Completion rates for outpatient treatment in Oregon in 2000 were 27% for gamblers and 33% for family members. Treatment completers received an average of 39 service hours at an average cost per case of $830. Six and 12-month follow-up interviews conducted with treatment completers found that approximately 80% of respondents reported little or no gambling in the past six months. Even among individuals who did not complete treatment, 65% reported gambling less than on admission and 48% reported decreases in debt (Moore & Marotta, 2004).

4. CURRENT PRACTICES IN PROBLEM GAMBLING SERVICES IN CALIFORNIA

In this section, we present information on the availability and effectiveness of problem gambling services in the State of California. Information on regulation and policy measures related to problem gambling is presented first, followed by information on prevalence research. Information from the surveys conducted by BDA is presented next, with a focus on public awareness and education activities, training for professionals and gambling industry employees, and finally referrals, screening and treatment for problem gambling. We then focus on the specific activities undertaken by several problem gambling advocacy organizations in California, the oldest and most active of which is the California Council on Problem Gambling (CCPG).

4.1. Regulation and Policy as Prevention Strategies

As far as we have been able to determine, the State of California has very few regulations or legislative policies with respect to problem gambling. There is no information about responsible or problem gambling on the websites of the California Horse Racing Board or the Department of Justice's Division of Gambling Control. The California Lottery and the Gambling Control Commission both have several pages on their respective websites with information about gambling responsibly and links to the California Council on Problem Gambling, Gamblers Anonymous and Gam-Anon.

There are statutes in California prohibiting lottery sales or ticket payouts to individuals under the age of 18 as well as statutes prohibiting individuals under the age of 21 from wagering on horse races or in California card rooms. Through its administrative funds, the California Lottery supports an in-house problem gambling helpline number that appears on all lottery tickets, printed materials and lottery newsletters (National Association of State & Provincial Lotteries, 2004).

Local governments in California have joint responsibility with the Department of Justice's Division of Gambling Control for licensing and regulating card rooms. Local governments have responsibility for setting hours of operation, number of tables and wagering limits. In recent years, some local governments have attempted to reduce hours of operation and wagering limits in card rooms in an effort to prevent problem gambling but these efforts have been largely unsuccessful to date, partly because of opposition from the card rooms and partly because patrons are able to travel to card rooms in nearby cities where hours and wagers are not limited.

4.2. Prevalence Research in California

The only study of the prevalence of problem and pathological gambling in California was part of a larger study funded by the National Institute of Mental Health and conducted in 1990 (Volberg, 1994). The prevalence surveys funded under this grant assessed respondents' experience with

different types of gambling,[11] gambling-related problems and demographic characteristics. Problem and pathological gambling in these surveys was assessed using the South Oaks Gambling Screen (SOGS), a 20-item scale derived from the DSM-III criteria for pathological gambling (Lesieur & Blume, 1987). The survey in California included 1,250 completed interviews with randomly selected respondents and the sampling design was stratified by county to ensure that inferences could be drawn between the sample and the population in California aged 18 and over.

There were already substantial opportunities to gamble legally in California in 1990. The main legal forms of gambling in the state included horse race wagering and commercial card rooms. California residents had had access to casino gambling in Nevada since the 1930s. Charitable gambling, including raffles and bingo, were widely available and the lottery in California was relatively recent, having started in 1985. Results of the survey showed that 89% of California respondents had ever gambled and that the average number of lifetime gambling activities was 3.9. Per capita spending on the lottery in 1987 among California respondents was $50. Lifetime gambling participation and mean number of lifetime gambling activities in California were more similar to the East Coast states surveyed than to the Midwest. This is likely due to the more heterogeneous and urban nature of the population in these states compared with the Midwest. However, per capita spending on the lottery in California was more similar to the Midwest, probably because residents in these jurisdictions had had access to lotteries for about the same amount of time.

Table 6 presents information about the lifetime prevalence of problem and pathological gambling in California compared with the average rates in four East Coast states and one Midwestern state. The prevalence rate of pathological gambling in California represented approximately 240,000 California residents at that time while the prevalence rate of problem gambling represented an additional 577,000 individuals. The prevalence rates of problem and pathological gambling in California are similar to the rates in the East Coast states and significantly higher than the rate in the Midwest.

Table 6: Comparing Problem Gambling Prevalence Rates

	East Coast States	Midwest	California
Problem (SOGS=3 or 4)	2.5%	1.6%	2.9%
Probable pathological (SOGS ≥5)	1.7%	0.1%	1.2%
Total	4.2%	1.7%	4.1%

Table 7 presents information about the demographic characteristics of problem and pathological gamblers in California in 1990, compared with respondents who gambled but without experiencing difficulties. Based on these data, it is clear that problem and pathological gamblers in California were significantly more likely than non-problem gamblers to be male, under the age of 30 and African American or Hispanic. Problem and pathological gamblers were significantly

[11] These gambling activities included lotteries, casino table games, gaming machines, bingo, card games, dice games, pari-mutuel wagering, stockmarket, games of skill and sports.

less likely than non-problem gamblers to be married and to have an annual household income over $25,000.

Table 7: Comparing Non-Problem Gamblers and Problem Gamblers in California

	Non-Problem Gamblers (N=1056)	Problem & Pathological Gamblers (N=51)
Male	43%	67%
Under 30	29%	43%
White	72%	47%
Black	6%	14%
Hispanic	13%	25%
Married	50%	28%
Annual income less than $25,000	28%	47%
Wagered very often in past year	5%	39%

At the time of the California prevalence survey, there were no tribal casinos and no gambling machines in the state. Over the last decade and a half, there has been tremendous expansion in the availability of legal gambling in California. Further expansion can be expected on several fronts, including pending re-negotiation of compacts between the State of California and numerous tribal governments, efforts by commercial card rooms and racetracks around the state to expand their operations to include slot machines or similar devices, and the possible legalization of casinos across the international border in Mexico.

The 1990 California prevalence survey was funded through a researcher-initiated grant and there are no plans by the National Institutes of Health to conduct further prevalence research in California.

4.3. The California Surveys

In Section 2.2.1 of this report, we described four surveys carried out by BDA to assess the extent and quality of problem gambling services in California. These surveys included questions about participation in and knowledge of problem gambling public awareness and education activities in California over the last five years, about participation in problem gambling awareness training programs, and about the availability and accessibility of problem gambling treatment in California. Table 8 on the following page presents information about the groups of survey respondents and the topic areas to which they were asked to respond.

Table 8: Survey Respondents and Topic Areas

	Education	Gambling Industry	Law Enforcement	Crisis & Treatment
Awareness & education	√	√	√	
Training	√	√	√	
Referral for treatment			√	√
Screening				√
Treatment				√
Certification				√

4.3.1. Describing the Respondents

Education. A total of 243 individuals who work in educational organizations were surveyed with 62% responding by Email and 38% responding by telephone. Three-quarters (77%) of the individuals who were surveyed by Email indicated that they worked for a government agency (primarily the California Department of Education). The Education respondents surveyed by telephone held a much wider variety of positions: 28% worked as a school principal or superintendent, 37% worked as a school counselor, 14% worked as a school nurse, 11% held clerical positions and 7% were instructors. Among the Education respondents surveyed by telephone, 60% were based in elementary schools.

Law Enforcement. A total of 129 individuals working in law enforcement were surveyed with 61% responding by Email and 39% responding by telephone. Law Enforcement respondents who were surveyed by Email were much more likely than those surveyed by telephone to indicate that they worked as Chief of Police for a specific county or municipality. Nearly all of the Law Enforcement respondents surveyed by Email (95%) worked in a municipal police department with 67% holding the title of Chief of Police and an additional 25% working as police officers. As with the Education survey, Law Enforcement respondents surveyed by telephone held a wider variety of positions than those surveyed by Email. Among the Law Enforcement respondents surveyed by telephone, 37% worked as police officers, 33% worked as public affairs officers and 16% were involved in training. Nearly half of these respondents (46%) worked for the California Highway Patrol; 29% were employed in municipal police departments and 21% worked as county sheriffs.

Gambling Industry. A total of 61 individuals employed in the major sectors of the gambling industry in California were surveyed with the great majority (95%) interviewed by telephone. Half of the Gambling Industry respondents (50%) were employed in a tribal casino, 24% were employed in a California card room, 20% were employed in the horse race industry and one respondent was employed by the California Lottery.

Crisis and Treatment. A total of 253 individuals employed in mental health and addictions crisis and treatment services in California were surveyed with 46% responding by Email and 54% responding by telephone. Just over two-thirds of the Crisis and Treatment respondents (70%) were Program Administrators and an additional 20% were counselors. Crisis and

Treatment respondents surveyed by telephone were much more likely than those surveyed by Email to indicate that they worked as a Program Administrator while those surveyed by Email were more likely to indicate that they worked as a counselor. A small number of respondents identified themselves as clerical workers or receptionists and another small proportion of the sample indicated that they were employed in some other capacity. Half of the respondents (50%) were employed in nonprofit organizations, 33% were employed in government organizations, and 17% worked in organizations that were a public/private mix.

Nearly half of the Crisis and Treatment respondents (45%) worked in organizations that provided mental health or addiction outpatient treatment, another 24% worked in organizations that provided inpatient treatment and 8% worked in organizations that provided intensive outpatient services. A substantial proportion of these respondents indicated that their organizations provided intensive outpatient treatment in addition to other treatment services. Nearly one-quarter of these respondents (23%) indicated that they worked in organizations that provided some other type of services, including residential treatment, alcohol specific treatment (e.g., DUI education) or crisis services.

4.3.2. Public Awareness and Education

Table 9 presents information about the proportion of Education and Law Enforcement respondents who had participated in a problem gambling public *awareness* campaign in the last five years, were aware of any problem gambling awareness campaigns other than one sponsored by their own organization, had participated in a problem gambling public *education* campaign in the last five years or were aware of any problem gambling education campaigns other than one sponsored by their own organization. This table also presents information about the availability of problem gambling education in schools in California communities from educators or from law enforcement officers working or teaching in schools.

Table 9: Problem Gambling Awareness & Education

Education	Email (154)	Telephone (100)
Recall PG awareness event	11%	5%
Participated in PG awareness event	2%	1%
Recall PG education event	3%	2%
Participated in PG education program	1%	1%
Any PG education in schools in community	1%	1%
PG materials incorporated in school-based curricula	1%	2%
Law Enforcement	Email (76)	Telephone (52)
Recall PG awareness event	7%	10%
Any PG education in schools in community	1%	2%
PG materials incorporated in school-based curricula	5%	2%

Table 9 shows that very few Education respondents recalled participating in any problem gambling awareness or education activities in the last five years; and, very few of these

respondents recalled problem gambling awareness or education campaigns conducted by other organizations. Recollection of the sponsors of these campaigns was poor—two Education respondents thought that they had seen an industry-sponsored public awareness event, two respondents recalled seeing a television program or hearing a radio show, and one respondent thought that the event had been sponsored by Gamblers Anonymous.[12] Most respondents thought that the event they recalled had been targeted to the general population although a few thought that the material was also aimed at the patrons of gambling establishments.

Finally, the proportion of Education respondents who were aware of information about problem gambling being incorporated into school curricula is low. Only one respondent indicated that he/she was aware of some problem gambling related education provided in the schools in the last five years and two respondents indicated that they were aware of a school or organization that had incorporated problem gambling awareness or education into school-based curricula in that period.

Recollection of problem gambling awareness events is higher among Law Enforcement respondents than among Education respondents. Three of the Law Enforcement respondents recalled an industry-sponsored public awareness event, two recalled a media story and one recalled a lottery advertisement. Only two Law Enforcement respondents were aware of any problem gambling education provided in the schools in their community in the last five years although a larger number of respondents (n=5) believed that officers working or teaching in the schools had incorporated information about problem gambling into their school-based curricula.

In contrast to the Education and Law Enforcement respondents, 60% of the Gambling Industry respondents recalled participating in a problem gambling public awareness event in the last five years. However, there were substantial differences by sector, with respondents from the tribal casinos and the California Lottery most likely to have participated in public awareness activities, followed by the horse racing industry and the card rooms. When asked to identify the type of public awareness campaign in which their organization participated, 81% of these respondents (n=30) indicated that the campaign consisted of hanging posters.

Although respondents were asked about problem gambling awareness and education *campaigns*, their recollections make it clear that respondents were actually answering based on their recollection of problem gambling awareness or education *events*.

4.3.3. Problem Gambling Training

Table 10 presents information about the proportion of Education and Law Enforcement respondents who had attended a training event on problem gambling identification and/or referral in the last five years.

[12] Gamblers Anonymous does not engage in public awareness or public education activities.

Table 10: Attended Problem Gambling Training in Last 5 Years

	Number	Percent
Education	256	<1%
Law Enforcement	129	2%
Gambling Industry	61	37%

Only one Education respondent recalled attending a problem gambling awareness training program in the last five years. This training was provided by the California Council on Problem Gambling. Among Law Enforcement respondents, the proportion indicating that someone in their organization had received training in problem gambling identification and referral in the last five years was somewhat higher although it remains unclear what kind of training these respondents received.

In contrast to the Education and Law Enforcement respondents, Gambling Industry respondents were substantially more likely to indicate that a proportion of their employees had attended a problem gambling awareness training in the last five years. Over one-third of the Gambling Industry respondents indicated that some percentage of their employees had received some problem gambling awareness training. However, responses varied substantially by gambling sector, with 48% of the tribal casino respondents, 29% of the card room respondents and only 8% of the horse race industry respondents indicating that some percentage of their employees had received any problem gambling awareness training.

Almost half of these trainings (46%) were conducted by industry and another 37% were conducted by industry consultants or other, unspecified parties. Ten percent of the trainings were provided by the California Council on Problem Gambling and another 9% were joint efforts by industry and the California Council. Just over half of these trainings (52%) lasted two hours or less and another 19% lasted four hours. The majority of these trainings (77%) provided information about how to identify problem gamblers in the gambling venue and appropriate referral information. The majority of respondents whose organizations had provided training (86%) felt that the training was effective.

4.3.4. Referral to Treatment for Problem Gambling

Law Enforcement respondents were asked whether their organization had a policy for referring individuals believed to have a gambling problem; whether they were aware of other law enforcement organizations with such a policy; and, whether they were aware of any law enforcement officers in their organization who had referred someone to Gamblers Anonymous or a community-based treatment or social service organization.

Table 11: Law Enforcement Referrals

	Email (76)	Telephone (52)
Dept has policy for referring PGs	11%	2%
Aware of other depts. with policy for referring PGs	8%	2%
Aware of referrals made for PG	15%	4%

Table 11 shows that Law Enforcement respondents surveyed by Email were substantially more likely to endorse all of these items than Law Enforcement respondents surveyed by telephone. This is likely due to the greater proportion of Email respondents who worked in municipal police departments compared with the telephone respondents. However, given that only 2% of all of the Law Enforcement respondents had received any training in problem gambling identification and referral, the basis for making these referrals is unclear as is the question of whether the individuals referred for help ever followed through.

Crisis and Treatment respondents whose organizations do *not* provide treatment for problem gambling (n=175) were asked where they or their organization referred problem gamblers for help. Over one-third of these respondents (39%) indicated that they had "no idea" where to refer problem gamblers. Nearly the same proportion (38%) indicated that they referred problem gamblers only to Gamblers Anonymous while another 10% referred problem gamblers to other 12-step groups. Only 5% of these respondents indicated that they referred problem gamblers to a specialized gambling treatment provider. Although none of the organizations where these respondents worked provided treatment for problem gambling, four respondents indicated that their organization had referred more than 25 problem gamblers in the past year.

4.3.5. Screening and Treatment for Problem Gambling

One-fifth (21%) of the Crisis and Treatment respondents indicated that they currently screened their clients for gambling problems. Among these respondents, 40% use an unspecified agency-specific screen, 28% use the DSM-IV criteria and 26% use the South Oaks Gambling Screen.

While the same proportion of respondents indicate that they screen for problem gambling and provide treatment for problem gambling, these two groups of respondents are not identical. On the one hand, 13 respondents screen for gambling problems but do not provide services; on the other hand, 14 respondents do not screen for gambling problems but work in organizations where they believe treatment is available. Among respondents who screen for gambling problems but do not provide services, 46% refer problem gamblers to Gamblers Anonymous and 23% refer problem gamblers to some other addiction provider. Only one of these respondents acknowledged making referrals to a specialized problem gambling treatment provider. Among respondents who provide services for problem gamblers but do not screen for this disorder, 56% offer problem gamblers outpatient treatment, 22% offer them intensive outpatient treatment and 11% offer inpatient treatment. There was no indication that any of this treatment is gambling-specific and only one of these respondents acknowledged referring or treating any problem gamblers in the past year.

Fifty-three Crisis and Treatment respondents indicated that their organization provided treatment for problem gambling. Over one-quarter of these respondents (29%) are based in Los Angeles County, 19% are based in Orange and Riverside counties, 13% are based in San Diego County and two respondents (4%) are based in San Bernardino County. Nine of these respondents (17%) are based in the San Francisco Bay Area, including Alameda, Contra Costa, San Francisco, San Mateo and Santa Cruz counties. Another seven respondents (13%) are based in the counties of Alpine, Fresno, Madera and Tuolumne, there is one respondent (2%) based in Lake County and another one (2%) based in Shasta County.

Respondents who indicated that they treated problem gamblers were asked about specialized credentials or certification. Just over a third (36%) of these respondents hold the California Compulsive Gambler Counselor certificate and another 11% hold the National Certified Gambling Counselor certificate. Another 40% of these respondents hold certification as a substance abuse counselor, 23% hold an MD and 15% hold a PhD. However, these data clearly show that half of the individuals in California who treat problem gamblers are relying on professional degrees, clinical experience or on substance abuse training rather than on gambling-specific training in providing treatment for problem gamblers. One respondent indicated that he/she had no formal qualifications or certifications in treating problem gambling.

Based on the 53 Crisis and Treatment respondents whose organizations do provide treatment for problem gamblers, the main form of professional treatment available for problem gamblers in California appears to be outpatient treatment (57%), following by intensive outpatient treatment (21%) followed by inpatient treatment (17%). Nearly one-quarter of these respondents (23%) indicate that their organization provides some other type of treatment specifically for problem gamblers but it is unclear what kinds of treatment are included in this category.

Table 12: Problem Gamblers Receiving Treatment in California, Past Year

Providers	PGs referred/treated past year	Range	Average
4	None	0	0
29	1 – 25	29 – 725	362
11	26 – 50	286 - 550	275
3	51 – 100	153 – 300	150
3	Over 100	300	300
3	Does not apply	---	---
53	Total	768 – 1875	1,087

Finally, Table 12 presents information on the likely number of individuals in California who have received referrals or treatment for a gambling problem from these 53 providers in the past year. Based on one survey conducted in 1990 (Volberg, 1994), there were approximately 240,000 individuals in the State of California who met criteria for the recognized disorder of Pathological Gambling in 1990. Even if we have underestimated the maximum number of individuals receiving treatment for problem gambling annually in California by a factor of ten, there is clearly an enormous gap between the need for problem gambling treatment in California and the availability of such services.

4.4. Public Awareness and Education Activities

Public awareness and education activities in California include the publication and distribution of problem gambling brochures and newsletters, signage posted in gambling establishments and lottery retail outlets, broadcasting public service announcements (PSAs), operation of websites with information about problem gambling resources, educating the media about problem gambling, conducting community and statewide awareness raising events, and educating community and professional groups.

As the oldest problem gambling advocacy organization in the State, the California Council on Problem Gambling (CCPG) has been involved in many of these activities over the last five years. CCPG has been providing services to problem gamblers in California since 1986 and is an affiliate of the National Council on Problem Gambling. The Council serves as a clearinghouse for problem gambling literature and information, maintains a 'speakers bureau,' and consults with health professionals in diagnosis and treatment. CCPG promotes public education and provides training and certification to problem gambling counselors as well as training in 'responsible gambling' practices to supervisors and employees at California casinos, racetracks, card rooms and the lottery. With funding from the gambling industry, CCPG maintains a professionally staffed, toll-free problem gambling helpline and treatment referral service.

In the sections that follow, we present information about other organizations before presenting information about the activities of the Council.

4.4.1. Literature

While conducting the situational assessment during Summer 2004, we were able to identify only one form of problem gambling literature available to the residents of California apart from materials produced by the California Council on Problem Gambling.

NICOS is a public-private-community partnership of more than 30 health and human service organizations and concerned individuals whose mission is to "enhance the health and well-being of the San Francisco Chinese community." In 1997, the coalition identified gambling as a major source of concern in their community and began development of the Chinese Community Problem Gambling Project. In 2000, NICOS and the Chinese Community Problem Gambling Project began work on a public awareness campaign and developed a Chinese-language brochure on problem gambling (NICOS, 2004).

The CCPG has published and distributed a quarterly newsletter since 1997 although difficulties with funding have sometimes affected the publication schedule. This newsletter serves to educate the public, the gambling industry, counseling professionals and other interested individuals about current events surrounding problem gambling, Council activities and ongoing programs. On average, between 1,500 and 2,000 copies of each issue of the newsletter are distributed. Additional copies are made available at public health and counseling professional conferences throughout California. The average cost of printing the newsletter and mailing out

the newsletter is approximately $1,400 per issue. This does not include costs for design and layout or for administrative support.

In 1998, the Council developed a brochure to raise public awareness of problem gambling and to inform readers about the Council's new helpline number. Copies of this brochure were made available to gambling establishments and community service agencies. In 1999, the brochure was translated into ten Asian languages and approximately 500 copies of this 'Asian Problem Gambling Brochure' were distributed to key agencies throughout the state.

In 2001 the Council created, published and distributed 10,000 pieces of literature geared towards middle and high school aged students throughout the state. This publication, titled *California's Youth At Play*, is a guidebook for teachers and covers the history of gambling, its effect on today's youth, and focuses on key issues related to problem gambling relevant to youth. This guidebook is designed to form the groundwork for educating youth on the realities and consequences of gambling.

In the same year, the Council created, published and distributed 35,000 copies of its publication, *Gambling Education for Teens: Just in Time*, to public schools in the Coachella Valley. This publication, written specifically for youth, covers topics including a definition of problem and pathological gambling, types and phases of problem gambling, signs and symptoms, and lists resources available for help. The material is available in both English and Spanish. Also in 2001, the Council distributed information about 12-step meetings to all 33 California state prisons. Volunteers from local recovery groups then contacted Community Resource Managers in the state prisons in hopes of establishing 12-step meetings within these institutions. Although the impact was limited, the need to address gambling problems in the prison population is severe and future efforts are warranted.

The Council's general brochure, *Worried About Gambling?*, is available in English, Spanish and ten Asian languages. In 2003, the Council distributed over 150,000 of these brochures in coordination with various gambling establishments, counseling professionals, community service organizations and awareness/education programs throughout California.

4.4.2. Signage

Tribal casinos in California managed by Harrah's Entertainment (e.g., Rincon) use responsible gambling signage provided by the corporation on the casino floor and back-of-house. This information is intended to educate employees from all departments about where to refer customers seeking assistance. Harrah's-managed casinos also provide responsible gambling information in brochures, on hold messages, through all direct marketing collateral materials and via responsible gambling media campaigns.

The California Council on Problem Gambling serves as a resource for gambling establishments throughout the state that are interested in providing information to their customers about problem gambling. CCPG provides a range of materials, including posters, business size cards, stickers for ATMs and other products. Costs for these materials are generally covered by donations from

the gambling establishment to CCPG. A substantial number of tribal casinos and card rooms in California make these materials available to their patrons. CCPG works with gambling establishments to encourage advertising of the CCPG helpline number on venue signage. Finally, CCPG works to encourage gambling establishments to fund the broadcasting of PSAs in their geographic areas.

In 2001, the California Council created a billboard advertising the '322' number that was strategically situated on I-10 in the Coachella Valley. This billboard was in place from August 2001 through July 2002. As far as the authors of the present report could determine, this is the only billboard regarding problem gambling that has appeared in California to date. During this 12-month period, the number of calls to the statewide helpline from problem gamblers or concerned others increased 44% over the prior 12-month period. There was only a 5% increase in calls from problem gamblers or concerned others in the following 12-month period.

4.4.3. Websites

There are a variety of web-based resources for problem gamblers in California. In addition to the sites listed in Section 3.3, there is a section on the California Lottery website (www.calottery.com) that contains information related to the signs and symptoms of problem gambling and resources available for help.

The newly-established Compulsive Gambling Institute (CGI) also has a website (www.gamblingaddiction.cc). This website advertises the 800-GAMBLER helpline number and provides links to Gamblers Anonymous and Gam-Anon as well as to CGHub and a women's gambling recovery group. The website includes a copy of the GA 20 Questions and a self-exclusion agreement form that visitors can print out.

The California Council on Problem Gambling maintains a website that provides visitors with information about problem gambling and resources available for assistance in California (www.calproblemgambling.org). These resources include certified counselors, treatment centers and community resource programs like Gamblers Anonymous and Gam-Anon. In 2003, the CCPG website received 113,755 visits. The Council is currently reworking its website to include a more user friendly interface as well as more in depth information on problem gambling, help available, current programs, studies and statistics, and news and events. The Council is also planning to incorporate a Gambling Industry Employee Awareness online training module in the future.

4.4.4. Public Service Announcements

We were unable to identify any problem gambling public service (PSA) materials within California apart from those produced by the California Council on Problem Gambling.

The California Council has created a 30-second public service announcement (PSA) about problem gambling that it makes available to radio stations free of charge. Several radio stations have aired the PSA during important sporting events being broadcast throughout the year. A

new 60-second radio public service announcement was created for use in the Sacramento area during the 2003 Responsible Gambling Awareness Week (see below). This PSA ran a total of 72 times between October and November 2003 on six Sacramento area radio stations. The California Council has also produced a television PSA about problem gambling. Like the radio PSA, the television PSA includes a reference to the Council's helpline number and is made available to all television stations free of charge.

4.4.5. Media Education and Contacts

We were unable to identify any media education efforts in California apart from those conducted by the California Council on Problem Gambling.

Representatives of the California Council, including staff, members and directors, have responded to media requests regarding Council activities and problem gambling in California on numerous occasions. Within the last three years, CCPG received and responded to requests for information and interviews from approximately 20 California radio stations. CCPG has also received and responded to requests for information and interviews from numerous television news shows spanning all of the major networks and media markets in California. Finally, CCPG has received and responded to requests for information and interviews from all of the major and many of the smaller California newspapers.

Outside of California, CCPG has responded to queries from *People Magazine*, *YM*, the *Philadelphia Enquirer*, the *New York Times*, the *Seattle Post*, *Buffalo News*, the *Daily Oklahoma* in Oklahoma City and the *Wisconsin State Journal*. Additional queries to which CCPG has responded have come from *Southern California Gaming Magazine*, *Native American Casino Magazine*, *Revenue Magazine* (based in San Francisco) and *Asian Weekly*, a national news journal for Asian readers.

4.4.6. Community and Statewide Events

We were unable to identify any community or statewide events related to problem gambling apart from those conducted by the California Council on Problem Gambling. In its efforts to raise public awareness, the California Council has organized or participated in a variety of public awareness events.

Walkathon. Since 1999, the California Council has sponsored an annual Problem Gambling Helpline Awareness Day Walkathon in the Palm Springs area. These public events bring together gambling operators, counseling professionals and other interested parties. In 2003, this event was held in collaboration with the first National Problem Gambling Awareness Week sponsored by the National Council on Problem Gambling and the Association of Problem Gambling Service Administrators (APGSA).

National Problem Gambling Awareness Week. The California Council worked with the National Council on Problem Gambling and APGSA to organize events during the first and second National Problem Gambling Awareness Week, held in early March. In 2003, CCPG

obtained a California State Assembly resolution as well as resolutions from several city and county governments officially recognizing National Problem Gambling Awareness Week.

In 2004, CCPG partnered with the California Lottery in obtaining a California State Assembly resolution as well as resolutions from the cities of Los Angeles, Palm Springs, and Sacramento. CCPG received a letter from the Office of the Governor of California saluting its efforts in the state to provide services to Californians affected by problem gambling. During this week, the Lottery distributed problem gambling awareness information to all of its employees and disseminated a press release about their activities during the week. The California Nations Indian Gaming Association (CNIGA) also participated in events during this week.

Responsible Gambling Awareness Week. In 2003, CNIGA and CCPG cooperated in organizing the state's first annual Responsible Gambling Awareness Week, from October 13-17. This first annual event consisted of panel discussions, workshops and seminars in three different cities at which national leading experts and laypersons discussed problem gambling epidemiology, the science of impulse control disorders, and treatment for problem gambling. Other topics included gambling problems among teenagers and young adults and the recovery process. Tribal leaders and state officials discussed what tribal and state government leaders are doing to confront this public health problem. All of the events were free of charge and open to the public.

Public Health Fairs. CCPG has participated in numerous public health fairs around the state, providing an exhibit booth with information about Council programs and problem gambling to attendees. Literature aimed at specific audiences attending the event (i.e., women, older adults, youth and ethnic groups) is available at the exhibit booth which is staffed by CCPG employees and volunteers.

Professional Conferences. CCPG has participated in many professional counseling and industry-related conferences, providing an exhibit booth with information about problem gambling and Council programs to attendees. Literature made available is directed to the specific audience attending the event (i.e., tribal leaders, gambling industry executives, elected officials, health care professionals).

Other Public Awareness Activities. In 2000, CCPG and San Diego State University collaborated to provide the country's first direct telephone line from a college campus to the Council's problem gambling helpline. A poster was displayed at the site including information about problem gambling (specifically sports betting) and a reference to the helpline number.

4.4.7. Public Education Programs

We were unable to identify any public education programs related to problem gambling apart from those conducted by the California Council on Problem Gambling.

The California Council maintains a 'speakers bureau' that provides the capacity to reach out into the community at many different levels. A statewide network of individuals from various

backgrounds and facets of the community, including professionals from the fields of medicine, mental health, education, public policy and industry, as well as laypeople who have personal experience with problem gambling, is available to address businesses, professional conferences and seminars, community organizations, and schools and universities. Problem gambling literature is made available at each event and is directed to the specific audience attending the event (e.g., older adults, women, youth, ethnic groups, tribal leaders, gambling industry executives, elected officials and health care professionals).

Since 2000, the California Council has collaborated with the College of the Desert in Los Angeles and Pierce College in Woodland Hills by providing curriculum and educational materials for a course that these educational institutions offer each year titled 'Problem Gambling Studies.' The goals of the course are to help participants understand problem gambling, assist them in the assessment and treatment of problem gamblers, provide them with practical skills and information regarding both problem gamblers and their families and to prepare students to take examinations for state and national certification as problem gambling counselors.

In 2001, the California Council received a grant from the Regional Access Project Foundation to conduct problem gambling awareness seminars at senior centers in the Coachella Valley. CCPG hired a Problem Gambling Educator who conducted the seminars and created problem gambling awareness literature specifically written for seniors. This individual also represented CCPG at several local health fairs. In 2002, CCPG collaborated with the Riverside County Office on Aging to produce a problem gambling awareness video aimed at older adults. Copies of this video have been distributed to local libraries and senior centers in Riverside County and can be viewed free of charge.

The Problems of Addiction and Labor and Management, Inc. (PALM, Inc.) is a national organization providing employees with assistance in resolving personal problems that may affect their work performance. In 2002, the California Council collaborated with PALM to provide problem gambling awareness workshops to their members in the Los Angeles area. Over a four-month period, approximately 120 PALM members attended these workshops and improved their understanding of the impacts of problem gambling in the workplace.

4.5. Training Programs for Professionals and Industry

In this section, we review information about specialized problem gambling training that is available to health professionals, educators and law enforcement personnel in California. We also review information about training for gambling industry personnel in identifying and responding to individuals with gambling-related problems.

4.5.1. Training Programs for Health Professionals, Educators and Law Enforcement Personnel

We were able to identify several problem gambling training programs available to health professionals in California. However, only limited information was available on the numbers of individuals who have utilized these resources. Several national sources of problem gambling counselor certification have already been described (see Section 3.6.1). Another likely source is the online training provided via Email by the Minnesota-based North American Training Institute (NATI). NATI has conducted classroom-style training in problem gambling assessment and treatment since 1991 and has been approved to provide courses by a range of accrediting agencies. In response to a query, NATI stated that approximately 40 mental health professionals in California, most with Master level degrees, have taken its problem gambling course over the past five years and that seven mental health providers in California have taken the NATI web-based clinical course over the past six months (George, personal communication).

NATI also provides training to educators throughout the United States, including California, on topics related to youth gambling, law enforcement, the judiciary, health care clinics, and other related nonprofit organizations (including financial counselors) on appropriate topics related to problem gambling. However, no information was available regarding the number of Californians in these professions who have obtained NATI training.

Another, more specialized source of problem gambling training is available through the Chinese Community Problem Gambling Project in San Francisco. In 1999, over 30 clinicians and counselors from the San Francisco Chinese community completed a 40-hour problem gambling counselor training provided by the California Council on Problem Gambling. Since then, the pioneering program has developed its own problem gambling training and has provided specialized training and supervision for several hundred community-based counselors in more than ten Bay Area agencies (NICOS, 2004).

In 1998 CCPG developed the California Certified Gambling Counselor training and certification program (CCGC). The goals of this program are to train mental health and substance abuse counselors to be competent in the detection, assessment and treatment of problem gamblers and to provide appropriate assistance to problem gamblers and their family members. The training course is focused on understanding the progression of problem gambling as well as accurate assessment and appropriate referral and treatment for problem gamblers. Certified counselors are eligible to receive referrals from the CCPG helpline and are listed on the CCPG website. The training course provides up to 30 Continuing Education Units for counselors with CADC, CAS, MFT and LCSW credentials. The requirements of the California Council certification program have changed over time to facilitate reciprocity with national gambling counselor certification standards. In 2004, CCPG revised its program to offer two levels of certification.

The California Council has conducted approximately 20 CCGC trainings throughout California over the past five years attended by over 250 individuals. Since 1999, approximately 75 individuals have gone on to take the required professional qualification examination and 55 of these individuals (73%) have passed the examination and been awarded the credential of CCGC. In addition to providing training and certification to individual counselors, CCPG also certifies

facilities to which helpline callers can be referred for treatment. Beginning in 2003, CCPG developed a set of standards that facilities must meet in order to be added to the Council's referral list. Standards include having qualified therapists on staff as well as site visits to the facility.

4.5.2. Training Programs for the Gambling Industry

As the survey results demonstrate, there are efforts underway in the California gambling industry to provide training and education for employees about problem gambling. However, we were unable to obtain details of these industry-initiated training efforts. Internationally, the difficulties encountered in the implementation of gambling industry employee training programs underscore the need for a centralized tracking system and mandatory site compliance to ensure consistent and effective delivery of such training.

In 2003, Arnie & Sheila Wexler Associates (http://www.aswexler.com/) provided employee awareness training for Trump 29 Casino in Coachella. The Wexlers have worked in the problem gambling field for nearly 30 years and their company offers consultation, interventions, group, individual and family counseling, couple workshops, referrals, evaluations and expert testimony as well as educational seminars, workshops and training. In addition to the employee training at Trump 29 Casino, the Wexlers have conducted trainings at the Betty Ford Center in Rancho Mirage, the University of California Riverside, the University of California Los Angeles and the University of Southern California.

The California Council has administered gambling awareness training to a range of gambling industry employees over the past five years. This one-hour curriculum covers such topics as identifying recreational and problem gambling, problem gambling behaviors, the impacts of problem gambling and procedures to follow when a patron asks for help. Training can be provided on a one-time basis or licensed on an annual basis. Literature about problem gambling and resources available for help is distributed to all attendees. Attendees complete questionnaires before and after each training to permit an assessment of their improvement in understanding problem gambling issues.

Training sessions have been conducted at several tribal casinos in California. One large training, held at the Agua Caliente and Spa Casino in Palm Springs in 2004, was attended by approximately 250 managers and supervisors. The focus of this training was to improve awareness of problem gambling among all of the property's departments, including hotel, housekeeping, food and beverage, and security as well as gaming staff. Attendees were asked to complete a brief questionnaire after the training session. Nearly all of the attendees who completed the questionnaire (93%) felt that the information presented was valuable, 94% felt that they would be able to use this information in the future and 96% agreed that the material was presented in an organized and informative way. There was agreement that a more interactive session would have been helpful and that more time should have been left for questions and answers.

CCPG has recently conducted trainings at Southern California card rooms. At Hollywood Park Casino, approximately 50 managers and supervisors participated in the training and provided feedback to the Council. The Commerce Club Casino, the largest card room in California, has recently taken a proactive approach to employee training in relation to problem gambling. The goal of the Commerce Club is to create a 'turnkey' program that can be adapted easily for use in all California card rooms. Following extensive meetings between the club's senior staff and CCPG, the Commerce Club established an in-house program that includes strategic placement of brochures and posters with helpline numbers, a voluntary exclusion program (see below) and six trained 'Point Persons,' employees with specific responsibilities for responding to customers or employees with concerns about their gambling. Planning is underway to create a 15-minute card room specific video for training front line employees.

Tribal casinos, card rooms and the California Horse Racing Association have all expressed interest in developing broader programs that would include simple training for front line employees, most likely consisting of a 15-minute video, identification of warning signs and information about available help. As a result of idiosyncrasies of different types of regular gamblers, representatives of all of these sectors of the gambling industry in California have expressed a desire for short presentation videos that are specific to their players.

4.5.3. Voluntary Exclusion Programs

There is currently no statewide gambling industry exclusion program in California although individual establishments may have their own programs in place. For example, Hollywood Park Casino, a Southern California card room, has an in-house exclusion program. According to the California Nations Indian Gaming Association, the majority of tribes operating gambling facilities in California have voluntary exclusion programs in place (Jensen, personal communication). However, it is unclear whether the tribal casinos share information regarding excluded patrons to prevent these individuals from continuing to gamble at another tribal casino.

All of the tribal casinos managed by Harrah's Entertainment (e.g., Rincon) participate in that corporation's voluntary exclusion program. This program ensures that patrons who enroll are denied credit and check cashing privileges as well as gambling participation at *all* Harrah's-owned, -managed, or -operated properties. Harrah's also operates a 'self-restriction' program that also allows patrons to request not to receive any direct marketing materials from the corporation.

In 2004, the California Council collaborated with the Commerce Casino in instituting a voluntary exclusion program. The Commerce Casino program includes an evaluation component that will be conducted by the UCLA Gambling Studies Program. Individuals electing to exclude themselves from the Commerce Casino will be invited to participate in a series of follow-up interviews and this information will be used to assess the effectiveness of the program. It is hoped that this effort will serve as a model for a future statewide voluntary exclusion program for the card room industry in California.

4.6. Helplines

There are presently four statewide helpline numbers that problem gamblers in California can access. These include:

- California Council on Problem Gambling helpline (800-322-8748).
- California Lottery Problem Gambling helpline (888-277-3115).
- National Council on Problem Gambling helpline (800-522-4700).
- Council on Compulsive Gambling of New Jersey helpline (800-GAMBLER).

The California Council on Problem Gambling established the '322' number in June, 1998. This was the first professionally staffed helpline for problem gambling in California. The California Lottery currently prints its own '277' helpline number on all lottery tickets sold throughout the state. Gambling operators in California may post any of the helpline numbers except the Lottery number in their properties and include them on published materials that they distribute. [13]

All of these helplines are confidential and available 24 hours a day, 7 days a week. The CCPG and the California Lottery helplines are both operated under contract by Bensinger DuPont & Associates. Callers to the National Council on Problem Gambling and 800-GAMBLER helplines are also directed to BDA when these calls are made from California. As noted above, BDA provides professional staff members trained in crisis intervention protocols, language translation when necessary and referral to appropriate counseling, treatment, and community resources available in the caller's area. Follow-up information packets are provided free of charge to callers who request more information. BDA collects data and provides statistical reports on the characteristics of callers to the helpline numbers to which it responds.

In 2000, the NICOS Chinese Health Coalition and its pioneering Chinese Community Problem Gambling Project established a toll-free helpline (888-968-7888) to provide assistance specifically for Chinese problem gamblers and their families. In FY 2001-2002, the Chinese Community Problem Gambling Project provided assistance to 99 callers (NICOS, 2004).

4.6.1. Helpline Callers

Information is available from BDA on the characteristics of callers to the helpline numbers in California. In 2003, BDA responded to 13,349 calls to these numbers; 21% of these calls (n=2,800) were from individuals seeking help for someone with a gambling problem. This represents an increase of 60% in the number of calls from individuals seeking help for a gambling problem in California between 1999 and 2003 (Bensinger, DuPont & Associates, 2004).

The great majority of these calls (n=2,504) were made to the California '322', 800-GAMBLER and the National Council numbers. Among these callers, 60% originated from Southern

[13] For example, the California Horse Racing Board advertises the CCPG number as well as the New Jersey 800-GAMBLER number in its newsletter. Callers are routed to the same BDA call center that handles calls for the California Lottery, CCPG and the National Council on Problem Gambling.

California area codes, 20% originated from area codes in the San Francisco Bay Area and 15% originated from area codes in the Sacramento or Fresno areas. Three-quarters (75%) of the calls came from individuals concerned about their own gambling problem; another 11% came from a concerned spouse; and, 8% came from another family member. Additional information about the characteristics of individuals calling about a gambling problem of their own is presented in Table 13. Since BDA does not collect information from callers about ethnicity, it is impossible to determine whether one or more ethnic groups in California is over-represented among the callers or among the gamblers who are causing concern.

Table 13: Characteristics of Callers with Problem, 2003*

	Number	Percentage
Male	1028	55.1
Female	838	44.9
25 and under	118	8.1
26 – 35	344	23.6
36 – 45	434	29.8
46 – 55	337	23.1
56 and over	224	15.3
Primary Gambling Preference		
Indian Casino	1372	78.2
Non-California Casino	121	6.9
Card Rooms	69	3.9
Horse Racing	61	3.5
Sports Betting	43	2.5
Lottery	43	2.5
Internet	19	1.1

*Data based on callers' willingness to disclose information.

As Table 13 makes clear, casino gambling is the primary preference of more than 80% of the gamblers of concern. This is hardly surprising, given that 50% of callers saw one of the three helpline numbers at a casino and another 6% saw the number in a casino mailing. However, nearly 5% of callers to these numbers report finding the number through the Internet. Two-thirds (66%) of the callers were referred to Gamblers Anonymous and 9% were referred to Gam-Anon. The next largest category of referrals (16%) was to a private practitioner on the CCPG's list of certified gambling counselors. A small proportion of callers (4%) were referred to a specialized inpatient treatment program and 3% were referred to a specialized outpatient treatment program.

BDA conducted an internal client satisfaction survey in 2003 (n=79) and found that 98% of these callers were able to speak to a helpline counselor immediately, 98% felt that the counselor was understanding, and 98% received a referral to Gamblers Anonymous or Gam-Anon. Over half of these callers (55%) had not gambled in the last 30 days and 52% said that they had attended a GA meeting.

There have been changes in the characteristics of callers to the California helplines since 1999. For example, between 1999 and 2003, the proportion of women callers seeking assistance for a gambling problem of their own increased 7% and the proportion of older adults seeking help increased 25%. As Table 14 demonstrates, there have also been changes in the primary preference among problem gamblers contacting the helplines. The proportion of gamblers with a preference for casino games increased dramatically between 1999 and 2003, while the proportion of gamblers with preferences for lottery games, card rooms and horse race betting dropped substantially. These changes are one indication of the impact of the introduction of tribal casino gambling in California since 1999.

Table 14: Primary Gambling Preference Among CCPG Callers with Problem

	1999	2003
Indian Casino	29.6	78.2
Non-California Casino	21.4	6.9
Card Rooms	13.6	3.9
Horse Racing	9.0	3.5
Sports Betting	6.7	2.5
Lottery	14.1	2.5

CCPG mails out free informational material to callers who request additional information but are not seeking immediate help. In 2003, the Council mailed out 729 information packets to residents of California. These packets contained resource materials compiled by CCPG to help individuals gain a better understanding of problem gambling and its impact on individuals, families and communities. The California Lottery has also developed a problem gambling awareness brochure that is available at each of its approximately 18,000 retailer sites throughout the state. This brochure is included in information packets sent free of charge to interested callers to the Lottery's helpline.

In addition to professionally staffed helplines, Gamblers Anonymous and Gam-Anon operate referral numbers and websites that provide meeting information throughout the State of California. Gamblers Anonymous is a fellowship program without dues or fees for individuals who believe they have a gambling problem. Gam-Anon is a fellowship program for friends and family members of problem gamblers. There are at least ten different numbers for the Gamblers Anonymous International Service Office and for specific areas within the state, including Northern California, Sacramento, Shasta County, Los Angeles, Orange County, Riverside County, Ventura County, Palm Springs, and San Diego. Gam-Anon operates two referral numbers in California, one for the International Service Office and another for San Diego. All of these numbers are posted on the Gamblers Anonymous and Gam-Anon websites (http://www.gamblersanonymous.org/ and http://www.gam-anon.org/gamanon/index.htm).

4.6.2. Helpline Costs

Costs for three of the four California problem gambling helplines—the CCPG number, the Lottery number and 800-GAMBLER—are billed jointly to the California Council by BDA on a monthly basis. The arrangement currently calls for the Council to pay $3,600 per month in professional fees and $10 per intake[14] after a maximum of 175 intakes has been reached. The total annual cost for these helplines in California was $50,510 in FY 2001-2002 which rose 4% to $52,650 in FY 2003-2004. There are additional costs for administrative support of the helpline by the California Council as well as costs for labor, materials and postage associated with the distribution of follow-up information packets. The cost of producing the information packets can be quite variable but has averaged approximately $1.85 per packet over the last three years. The Council distributes an estimated 80 packets per month for an estimated annual cost of $1,700.

The California Council receives funding for the helplines from the gambling industry and other interested parties throughout the state. Sources of funding include: the California State Lottery, Native American tribes, tribal casinos, California card rooms, racetracks and gambling industry vendors and suppliers.

4.7. Treatment: Coverage of Costs

The various levels of care available in California include the self-help group, Gamblers Anonymous, individual practitioners, intensive outpatient programs, group therapy and residential treatment facilities. However, it is unclear whether much, if any, of the formal treatment that is available is gambling-specific. As noted above, the California Council on Problem Gambling certifies individual counselors as well as several treatment programs in California that have met the standards established by the Council. There are three residential treatment providers in California that are certified by the Council, including Crutcher's Serenity House in Napa, Heartskober Manor in Orange County, and Pasadena Recovery Center in Pasadena. There are also 22 individual treatment professionals who have completed the requirements for certification as California Compulsive Gambling Counselor (for additional information, see Section 4.3.5).

Through the Chinese Community Problem Gambling Project, the NICOS Chinese Health Coalition provides problem gambling counseling and support services for members of the San Francisco Bay Area Chinese community. In FY 2001-2002, the Chinese Community Problem Gambling Project provided counseling services to 49 families (NICOS, 2004).

In Section 3.3.4, we noted that some or all of the cost of formal treatment for problem gambling is covered in a growing number of states; these include: Arizona, Connecticut, Delaware, Illinois, Indiana, Iowa, Kansas, Louisiana, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New York, Oregon, and South Dakota. Only a proportion of the cost of treatment is

[14] An 'intake' is a caller who is concerned about their own or another person's gambling problem as opposed to someone seeking information about the lottery or a casino.

covered in some states; in others, the full cost of treatment is covered as long as the person seeking help meets the diagnostic criteria for Pathological Gambling (Christensen, personal communication).

Currently, there is no state-level funding for the treatment of problem gambling in California. Although formal treatment can be characterized as an essential component in a comprehensive continuum of services, access to problem gambling treatment in California depends on proximity to a specialized provider and the ability to pay for treatment, either with insurance or out-of-pocket.

The major health insurance providers in California are Blue Cross, Kaiser Permanente, United Behavioral Healthcare, Pacificare, Secure Horizons, Medicare and Medi-Cal. Although there is no formal policy denying payment for the treatment of pathological gambling, there are measures in place that make it extremely difficult for the patient and the counselor to obtain reimbursement. While most insurance companies provide some mental health coverage, there is little discrimination between disorders that are not deemed 'severe mental illness' (SMI). For disorders like Pathological Gambling, that are not deemed SMI, only outpatient treatment is typically covered and there are caps on the number of sessions as well as on the level of reimbursement to the counselor. The likelihood of insurance payments to the counselor is further reduced by patient copayments and annual deductibles. Most providers who treat problem gamblers obtain reimbursement by billing for both pathological gambling and for a comorbid SMI disorder, such as major depression. Based on counselor experience, health insurance providers consistently refuse to provide coverage for inpatient treatment for this disorder.

Complications also arise when problem gamblers have coverage through an HMO, such as Kaiser Permanente. Although Kaiser does offer treatment for chemical dependency, the company does not offer any problem gambling treatment and they will not pay for any of their patients to see a provider outside their group.

We were unable to identify any state agencies or county clinics in California that treat problem gamblers or that have a specialized gambling track. This is partly explained by the lack of funding available specifically for gambling treatment. While capacities at these agencies are likely to include individual therapy, group therapy, referrals to Gamblers Anonymous and referrals to treat comorbid disorders, our survey data demonstrate that very few of the counselors at these agencies have received any gambling-specific training. It is unlikely that problem gamblers seeking treatment at these agencies would receive any specialized help.

4.7.1. Moving Forward: Providing Problem Gambling Treatment in California

Although there is information available about problem gambling services in California, we are unable to comment on the quality of these services. Furthermore, there are no existing treatment guidelines for Pathological Gambling endorsed by any of the major U.S. mental health associations nor is there any national monitoring of the quality of care delivered. However, rigorous processes to evaluate quality of care and ensure the delivery of high levels of care have

been adopted by a range of health disciplines. The following criteria have been utilized in such evaluations:

- Access and availability – how available is treatment to those who need or request it?
- Efficacy – does treatment achieve the desired outcome?
- Appropriateness – is the treatment relevant to the client's needs?
- Cost
- Effectiveness – is the treatment provided correctly?
- Continuity of care
- Efficiency – are the appropriate resources used?
- Client satisfaction – are the services provided in a respectful and caring manner?
- Compliance – how compliant are clients with treatment recommendations?
- Documentation – is there adequate and appropriate documentation of the delivery of services?

4.8. Research and Evaluation

We were unable to identify any significant problem gambling research activities in California beyond the few initiatives mentioned above. As noted, there was a prevalence survey conducted in California but that is now 15 years old. There is a small study underway by the UCLA Gambling Studies Program to follow up individuals who exclude themselves from the Commerce Casino card room and to assess the effectiveness of this program.

In June 2003, the California Council was invited to collaborate with the California Department of Education in writing a gambling question for inclusion in the California Healthy Kids Survey (CHKS) and the Attorney General's Biennial Students Survey. The Attorney General's survey is given to a representative statewide sample of 7th, 9th, and 11th graders, and the related CHKS survey is intended for use by local school districts in the 5th, 7th, 9th, and 11th grades. This survey is a comprehensive youth self-report data collection system that provides essential and reliable health risk assessment and resilience information to schools, districts, and communities. The CHKS is designed to be part of a comprehensive data-driven decision-making process to help guide the development of more effective health, prevention, and youth development programs. Unfortunately, the available funding allowed only for the inclusion of a single question about gambling participation in these surveys. Future efforts to assess youth gambling participation and problems will require further refinement, as well as additional funding to provide for analysis of the data and dissemination of the results.

5. CONCLUSION

This report has reviewed a wide range of studies on key aspects of problem gambling services, including the epidemiology or distribution of gambling problems and the etiology or causes of problem gambling as well as approaches to the prevention and treatment of problem gambling. Throughout, we have sought to indicate areas where the existing research provides a secure knowledge base sufficient to inform policy and practice and areas where understanding is thin or absent.

This has been a demanding assignment, made more challenging by the recent explosion in scholarly writing on the topics we were asked to review. Ultimately, however, we believe that we have met our goal, to provide a report that will assist the full range of stakeholders in California in understanding the issues and challenges related to problem gambling services and supply reliable guidance in establishing priorities for the future.

5.1. Limitations of Report

The use of evidence to inform practice is often difficult and misunderstood. Policy makers, researchers and clinicians are now urged to make use of current research-based knowledge to inform our decision-making and to critically appraise what we find. The most highly regarded form of evidence is a *systematic review* of appropriate and good quality research. The systematic review differs from traditional literature reviews in that an explicit and reproducible method is used in an attempt to identify and bring together in an unbiased way all the research evidence that can answer a particular question. The aim is to avoid a biased and selective review that will provide an unreliable basis on which to base decisions.

There are two different types of limitations to the present study. Methodological limitations include our ability to find unpublished studies and studies published in less prominent journals within the timeframe of the project. Another limitation is that much of the work on this review was conducted in parallel by different reviewers. While it would have been preferable for all of the reviewers to consider all of the materials identified, this was not possible within the constraints of the project.

There are also important limitations to the research evidence that we were able to find. The most important limitation is that there are so few well-designed studies at all on problem gambling risk and protection factors as well as problem gambling prevention and intervention. The dearth of high quality research internationally made use of a 'quality of methodology' criterion largely impractical. There simply is not enough high-level evidence to identify promising approaches according to accepted practice in systematic reviews. The information that we were able to extract comes largely from studies limited by data and design considerations including small sample sizes, poor response rates and lack of control groups. These considerations make it difficult to determine the effectiveness of these programs or whether they may be successfully replicated in other settings.

Another limitation is that although all of the reviewers queried our professional networks, we may not have identified promising approaches that have not yet been subjected to evaluation. It is also possible that some of the studies we considered measured outcomes of relevance in the present context but that these were not reported. Another limitation is that many of the programs that we describe have not been in existence for a sufficient time to permit assessment of their long-term effectiveness. Finally, almost all of the studies that we considered were conducted outside the U.S. with the implication that the results may not transfer easily to California or other U.S. jurisdictions.

5.2. General Conclusions

We were asked to prepare a critical review of research on selected aspects of problem gambling and to synthesize information on the current status of problem gambling services in California. Based on our reviews as well as on information gathered by BDA and the California Council on Problem Gambling, we came to numerous conclusions regarding the existing state of problem gambling services as well as the most promising directions forward for the State of California. In the remainder of this section, we highlight our conclusions in relation to research, public policy, workforce development, interventions and evaluation.

While there are substantial gaps in our knowledge of problem gambling, what is known suggests that significant increases in access to electronic gambling machines and other continuous gambling forms (including casino table games and track betting) in California will generate increases in problem gambling and related flow-on costs in coming years. Furthermore, although we know little about the contemporary risk profile for problem gambling in California, this is likely to change. Problem gambling prevalence is likely to rise substantially as the availability and accessibility of legal gambling in California increases although research suggests that it will eventually level out. What is not known is how quickly such efforts can have a significant impact and whether or not they can prevent increases in problem gambling entirely.

While a very small number of prospective studies consistently show that problem gambling is more mutable than previously thought, there is still much that we do not know about 'natural recovery' and how to promote this process. Moving forward, it is imperative to establish problem gambling as an integral element of mainstream health services and health research agendas in California. Another direction for the future is to identify large state- or national-level prospective studies and fund the addition of gambling 'modules' or additional samples of at-risk groups in California. This would be a cost-effective way to rapidly improve knowledge of problem gambling in California.

Our review of gambling regulation and policy as tools for problem gambling prevention suggests the need for both strategic planning and a comprehensive monitoring system in California. The monitoring system—which would provide a neutral database for strategic analysis and decision-making as well as an evidence base to reiteratively inform policy, program and service development—would consist of an integrated database, a basic research effort and a process for dissemination. The integrated database would include information on gambling participation, attitudes, expenditures and problem gambling prevalence as well as the availability, utilization

and effectiveness of problem gambling services, gambling industry revenues, and health, family, workplace, financial and legal impacts of gambling. The basic research component would include studies of the impacts of specific gambling introductions or intervention initiatives on California communities but could also 'bootstrap' onto larger, national-level studies, as noted above, by funding the addition of gambling components to studies of other behaviors and disorders or enabling larger samples to be interviewed. Dissemination could be accomplished through establishment of a clearinghouse to gather and synthesize information and provide stakeholders with reliable and credible information. While a growing number of governments internationally have begun to establish such systems, little is known about 'best practices' in this regard.

Different facets of the gambling industry have been involved in problem gambling prevention for some years. However, these efforts must compete with heavily financed industry advertising campaigns that work directly to counteract their effectiveness. A possible direction may be the adoption (either voluntarily or mandated) of industry-wide 'responsible gambling marketing and advertising' codes, along with work to monitor compliance and assess their effectiveness. Secondary prevention efforts by the gambling industry have included employee training programs, voluntary exclusion programs and partnerships with practitioners and government agencies to provide information and improved access to formal treatment services. However, implementation of these programs has not always been of the highest quality and compliance has been uneven.

If 'host responsibility' training is developed by the gambling industry in California, management support will be critical to its success. Another critical element will be basic research, most likely within gambling venues, to identify the most salient 'signs' of problems among different types of gamblers. There is also a need for evaluation of the effectiveness of employee training programs and voluntary exclusion programs as well as research on the most appropriate methods to implement such measures. Finally, partnerships with gambling equipment suppliers, to implement problem gambling prevention measures on the products they supply to the gambling industry, have promise. A key challenge in the evolution of these partnerships is ensuring the independence of investigators who examine the effectiveness of these measures.

Exclusion policies are the gambling industry measure that has received the greatest evaluative attention internationally. Challenges in implementing such programs include difficulties in identification and detection as well as in enforcement and monitoring. Such measures should be viewed as a gateway to formal treatment. Work is needed to improve treatment-seeking and access to services once an individual has chosen exclusion. Difficulties encountered in the implementation of problem gambling education and training programs for industry employees emphasize the importance of establishing centralized tracking systems and mandatory site compliance to ensure consistent and effective delivery of training. Another challenge is in the identification of 'signs' of problem gambling; this is an area where venue-based sociological research could be valuable.

With regard to problem gambling interventions, it has been easiest internationally to achieve stakeholder agreement with regard to problem gambling prevention among youth. However, difficulties have been encountered in introducing gambling information into school-based

curricula. Work is needed to educate parents, teachers and others who work in schools, colleges and universities about the risks associated with gambling. There is also promise in the development and delivery of telephone- and Internet-based materials to youth and young adults.

Evidence suggests that effective problem gambling awareness campaigns targeting adults can lead to measurable increases in awareness of services, in calls to helplines and in clients seeking help. In developing mass media campaigns, it will be essential to conduct formative research to develop targeted and effective messages, use television as a broadcast medium and plan for extended campaigns.

Problem gambling prevention is most often carried out by specialist non-governmental organizations rather than by the gambling industry or by counselors and other treatment professionals. One recent innovation, problem gambling information kiosks inside gambling venues, represents a promising new partnership between treatment professionals and gambling operators and implementation and evaluation of such efforts seems warranted. Future directions for prevention are suggested by the growing involvement of counselors in voluntary exclusion programs as well as the promise of brief interventions in formal problem gambling treatment. Work is needed to assess the effectiveness of such involvement in improving treatment-seeking and treatment access after exclusion. Another direction would be to assess the effectiveness of single session information sessions in conjunction with time-limited exclusion in assisting in the process of natural recovery.

We have noted that very few people identified as having gambling problems seek assistance. Most health professionals who have contact with problem gamblers are probably unaware that they do, even in settings where moderate to large percentages of clients have gambling problems. There is a need for education and training for non-specialist professionals as well as additional training in substance misuse and mental illness among specialist professionals working with problem gamblers. There is a need for research on subtypes of problem gamblers so that therapeutic interventions can be developed or refined. There is also a need for research into 'controlled gambling' as an acceptable treatment outcome with some, probably less severe, problem gamblers. Work is needed to identify barriers to help-seeking among ethnic minority and recent migrant groups.

In our review of intervention options for the treatment of problem gambling, we looked at formal treatment and alternative harm reduction strategies that have been adopted internationally in relation to problem gambling. Unfortunately, funding for the evaluation of problem gambling interventions has been so scarce that little can be said with confidence about the effectiveness of such efforts. As a consequence, there are large gaps in our understanding of the most effective treatments for problem gambling that remain to be filled.

Most research on problem gambling has been based on self-selected samples of treatment-seeking problem gamblers or community volunteers. Little is known about what kinds of treatment might be effective with different subgroups of problem gamblers or with groups in the population that are unlikely to seek any assistance for a gambling problem. While likely expansions in gambling opportunities in California can be expected to affect youth, women, and ethnic and new immigrant minorities disproportionately, it is unclear what their needs will be and how they might be best served by the few treatment resources presently in place.

While certification and credentialing of problem gambling counselors is increasing, little is known about the most appropriate education and training for professionals who treat problem gamblers and their families. Priorities include monitoring the impact and effectiveness of intervention strategies that are implemented as well as broadening the focus to examine promising new interventions. There is also a need for empirical assessments of the role of financial counseling and money management in problem gambling treatment. Another aspect of problem gambling treatment that has received inadequate attention is the importance of providing help for family members of problem gamblers.

Problem gambling treatment services tend to be provided by individual counselors who have received some specialized training and who are based within larger addiction or mental health treatment programs. There is a need for training for non-specialist counselors in screening for gambling problems among their clients and in making appropriate referrals. Cognitive-behavioral therapy, the only treatment approach that has received sustained evaluative attention, has demonstrated positive and consistent outcomes. There are also a growing number of pharmacotherapeutic approaches being taken in the treatment of gambling problems. Finally, there is some research suggesting that much larger numbers of individuals may be helped through brief interventions and public awareness campaigns than through formal, clinically-based treatment programs.

The focus of formal treatment services on the most severely affected individuals has meant that prevention efforts, which can be expected to affect the behavior of much larger proportions of the population, are poorly developed. Another critical concern is that although formal treatment services receive the majority of available funding, evaluation and monitoring of these services has been limited. The focus on formal treatment has also led to a short-changing of research on problem gambling which has, in turn, limited the development of theoretical understanding of gambling problems and hindered the ability to design effective interventions. As noted at the beginning of this section, long-term strategic plans for research and evaluation as well as for prevention and treatment are needed along with provision for multi-year funding streams to ensure that the impacts of legal, commercial gambling in California are effectively addressed.

6. REFERENCES

Abbott, M.W. (2001). *What do we know about gambling and problem gambling in New Zealand?* Report No. Seven of the New Zealand Gaming Survey. Wellington: Department of Internal Affairs.
Available at http://www.dia.govt.nz.

Abbott, M.W. & Volberg, R.A. (1996). The New Zealand National Survey of problem and pathological gambling. *Journal of Gambling Studies*, 12 (2), 143-160.

Abbott, M.W. & Volberg, R.A. (1999). *Gambling and Problem Gambling in the Community: An International Overview and Critique.* Report Number One of the New Zealand Gaming Survey. Wellington: Department of Internal Affairs.
Available at http://www.dia.govt.nz.

Abbott, M.W. & Volberg, R.A. (2000). *Taking the pulse on gambling and problem gambling in New Zealand: Phase One of the 1999 National Prevalence Survey. Report number three of the New Zealand Gaming Survey*. Wellington: Department of Internal Affairs.
Available at http://www.dia.govt.nz.

Abbott, M.W., Volberg, R.A. & Rönnberg, S. (2004a). Comparing the New Zealand and Swedish National Surveys of gambling and problem gambling. *Journal of Gambling Studies*, 20 (3), 237-258.

Abbott, M.W., Williams, M. & Volberg, R.A. (2004b). A prospective study of problem and regular non-problem gamblers living in the community. *Substance Use and Misuse*, 39 (6), 855-884.

Abbott, M.W., Volberg, R.A, Bellringer, M. & Reith, G. (2004c). *A Review of Research on Aspects of Problem Gambling*. Report to the Responsibility in Gambling Trust. Auckland, NZ: Gambling Research Centre, Auckland University of Technology.
Available at http://www.rigt.org.uk/reports.asp.

Allcock, C., Blaszczynski, A., Dickerson, M., Earl, K., Haw, J., Ladouceur, R., Lesieur, H., McCorriston, T., Milton, S. & Symond, P. (2002). *Current issues related to identifying the problem gambler in the gambling venue*. Melbourne: Australian Gaming Council.
Available at http://www.austgamingcouncil.org.au/research/files.

American Gaming Association. (2003). Responsible gaming awareness week launched in Canada. *Responsible Gaming Quarterly*, Winter 2003.
Available at http://www.americangaming.org/rgq/.

American Gaming Association. (2004). Pioneering Project 21®. *Responsible Gaming Quarterly*, Winter 2004.
Available at http://www.americangaming.org/rgq/.

American Gaming Association. (2004). *Responsible Gaming Statutes and Regulations*. 2nd Edition. Washington, DC: Author.
Available at http://www.responsiblegambling.org/.

American Psychiatric Association. (1980). *Diagnostic and Statistical Manual of Mental Disorders, Third Edition*. Washington, DC: Author.

American Psychiatric Association. (1994). *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*. Washington, DC: Author.

Anderson, G. & Brown, R.I.F. (1984). Real and laboratory gambling: sensation seeking and arousal. *British Journal of Psychology,* 75, 401-410.

Arnold, G., Collins, P., Eadington, W.R., Remmers, P. & Ricketts, T. (2003). *Towards a strategy for addressing problem gambling in the U.K: A report to the Responsibility in Gambling Trust*. London: Responsibility in Gambling Trust.
Available at http://www.rigt.org.uk/reports.asp.

Associated Press. (2003). 'Card clubs' complain about casino competition. (June 20, 2003).
Available at http://www.cnn.com/2003/US/West/06/20/card.clubs.ap/.

Baer, J.S., MacLean, M.G. & Marlatt, G.A. (1998). Linking etiology and treatment for adolescent substance abuse: Toward a better match. In R. Jessor (Ed.), *New Perspectives on Adolescent Risk Behavior*. New York: Cambridge University Press.

Bannister, R. (2004). South Africa's problem gambling model rolled out. *International Gaming & Wagering Business* 25 (10), 20.

Battersby, M., Thomas, L.J., Tolchard, B. & Esterman, A. (2002). The South Oaks Gambling Screen: A review with reference to Australian use. *Journal of Gambling Studies,* 18 (3), 257-271.

Bell, L. (2004). *Using performance to engage youth*. Paper presented at Symposium 2004.
Available at http://www.responsiblegambling.org/.

Bensinger, DuPont & Associates. (2004). *California Council on Problem Gambling Help Line Statistical Report, 2003*. Author.

Bivins, J., & Hahnke, J. (1998). The new path to profits: technology strategies for the gaming industry. *Special supplement to International Gaming and Wagering Business.* Sponsored by KPMG Peat Marwick (June).

Blaszczynski, A. (2001). *Harm minimization strategies in gambling: An overview of international initiatives and interventions*. Melbourne: Australian Gaming Council.
Available at http://www.austgamingcouncil.org.au/research.

Blaszczynski, A. & Silove, D. (1995). Cognitive and behavioral therapies for pathological gambling. *Journal of Gambling Studies,* 11, 195-220.

Blaszczynski, A., Ladouceur, R., & Shaffer, H. J. (2004). A science-based framework for responsible gambling: The Reno model. *Journal of Gambling Studies* 20 (3): 301-317.

Blaszczynski, A., McConaghy, N. & Frankova, A. (1991). Control versus abstinence in the treatment of pathological gambling: A two to nine year follow-up. *British Journal of Addiction,* 86, 299-306.

Blaszczynski, A., Sharpe, L. & Walker, M. (2001). *The assessment of the impact of the reconfiguration on electronic gaming machines as harm minimisation strategies for problem gambling*. A Report to the Gaming Industry Operators Group from the University of Sydney Gambling Research Unit. Sydney: University of Sydney.
Available at http://www.agmma.com/pdf/reports/.

Blaszczynski, A., Walker, M., Sagris, A. & Dickerson, M. (1997). *Psychological aspects of gambling behaviour*. The Australian Psychological Society.

Breen, R.B. & Zimmerman, M. (2002). Rapid onset of pathological gambling in machine gamblers. *Journal of Gambling Studies* 18 (1), 31-43.

Broder, J.M. (2004). California budget battle ends with deal. *Las Vegas Sun* (July 27, 2004).

Brounstein, P.J., Zweig, J.M. & Gardner, S.E. (1999). *Understanding substance abuse prevention: Toward the 21st Century: A primer on effective programs*. Rockville: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention, Division of Knowledge Development and Evaluation.

Brown, R.I.F. (1986). Arousal and sensation seeking components in the general explanation of gambling and gambling addictions. *International Journal of the Addictions,* 21, 1001-1016.

Browne, B.R. (1993). The selective adaptation of the Alcoholics Anonymous program by Gamblers Anonymous. In *Gambling Behavior and Problem Gambling*, W.R. Eadington & J.A. Cornelius (eds). Reno, NV: University of Nevada Press. (Pp. 573-594).

Buckley, M. Post to *Gambling Issues International*. November 5, 2004.

California Gambling Control Commission. 2004.
Available at http://www.cgcc.ca.gov/.

California Horse Racing Board. (2003). *Thirty-Third Annual Report of the California Horse Racing Board: A Summary of FY 2002-2003 Racing in California*. Sacramento, CA: Author.
Available at http://www.chrb.ca.gov/annual_reports/.

California Lottery. (2003). *Fulfilling Our Mission to Education. Report to the Public*. Sacramento, CA: Author.
Available at http://www.calottery.com/about/index.html.

Castellani, B. (2000). *Pathological gambling: The making of a medical problem*. Albany, NY: State University of New York Press.

Centre for Addiction and Mental Health. (2001). *Promoting Community Awareness of Problem Gambling: Resource Package*. Toronto: Author.

Centre for International Economics (CIE). (2002). *Gaming machine revenue at risk*. Report prepared for Gambling Industry Operators Group. Canberra: Author.

Chambers, R.A. & Potenza, M.N. (2003). Neurodevelopment, impulsivity, and adolescent gambling. *Journal of Gambling Studies* 19 (1), 53-84.

Christensen, T. (2002). *Problem gambling policy: Current status of state approaches*. Paper presented at the Annual Conference of the National Council of Legislators from Gaming States. New Orleans, LA. May 2002.

Christensen, T., President, Association of Problem Gambling Service Administrators. Personal communication to R.A. Volberg. November 29, 2004.

Christiansen, E.M. (1999). *An Overview of gambling in the United States*. Testimony before the National Gambling Impact Study Commission (February 8, 1999). Virginia Beach, VA.

Christiansen, E.M. (2000). Mixed results: The 1999 Gross Annual Wager. *International Gaming & Wagering Business* 21 (8), 15-17.

Christiansen, E.M. & Sinclair, S. (2001). 2000 Gross Annual Wager: U.S. growth rate disappoints. *International Gaming & Wagering Business* 22(8), 1, 32.

Clifford, G., Executive Director, Gambling Helpline of New Zealand. Personal communication to R.A. Volberg. August 11, 2004.

Clotfelter, C.T. & Cook, P.J. (1989). *Selling Hope: State Lotteries in America*. Cambridge: Harvard University Press.

Coman, G. & Burrows, G. D. (2002*). Group telephone counselling for problem gambling behaviour*. Paper presented at the European Association for the Study of Gambling Annual Conference. Barcelona, Spain.
Available at http://www.easg.org/barcelona2002/presentations/.

Comings, D.E., Gade-Andavolu, R. et al. (2001). The additive effect of neurotransmitter genes in pathological gambling. *Clinical Genetics* 60(2), 107-16.

Commission on the Review of the National Policy Toward Gambling. (1976). *Gambling in America*. Washington, DC: Government Printing Office.

Cooper, G. (2004). Exploring and understanding online assistance for problem gamblers: The pathways disclosure model. *eCOMMUNITY: International Journal of Mental Health & Addiction,* 1 (2).
Available at http://www.pasinfo.net.

Cox, S., Lesieur, H.R., Rosenthal, R.J. & Volberg, R.A. (1997). *Problem and Pathological Gambling in America: The National Picture*. Columbia, MD: National Council on Problem Gambling.

Crown Casino. (2004). *Responsible Gaming*. Author.
Available at www.crownltd.com.au/home.asp.

Currie, S. (2004). *Using national population data to develop low-risk gambling guidelines*. Paper presented at the 3rd Annual Alberta Conference on Gambling Research.

Custer, R.L. & Milt, H. (1985). *When Luck Runs Out: Help for Compulsive Gamblers and Their Families*. New York, NY: Facts on File.

Daghestani, A.N., Elenz, E. & Crayton, J.W. (1996). Pathological gambling in hospitalized substance abusing veterans. *Journal of Clinical Psychiatry,* 57 (8), 360-363.

Deguire, A-E. (2003). Prevention and the gambling industry. *Youth Gambling International,* 3 (1), 3.
Available at http://www.youthgambling.com.

Derevensky, J.L. & Gupta, R. (2000). Prevalence estimates of adolescent gambling: A comparison of the SOGS-RA, DSM-IV-J, and the GA 20 Questions. *Journal of Gambling Studies* 16 (2/3), 227-251.

Derevensky, J.L. & Gupta, R. (2004). Adolescents with gambling problems: A synopsis of our current knowledge. *Electronic Journal of Gambling Issue*, Issue 10.
Available at http://www.camh.net/egambling.

Derevensky, J.L., Gupta, R., Dickson, L. & Deguire, A-E. (2001). *Prevention efforts toward reducing gambling problems*. White Paper prepared for the Substance Abuse and Mental Health Services Administration.

Diskin, K.M. & Hodgins, D.C. (1999). Narrowing of attention and dissociation in pathological video lottery gamblers. *Journal of Gambling Studies*, 15, 17-28.

Doiron, J.P. & Mazer, D.B. (2001). Gambling with video lottery terminals. *Qualitative Health Research* 11 (5), 631-46.

Dombrink, J. & Thompson, W.N. (1990). *The Last Resort: Success and Failure in Campaigns for Casinos*. Reno, NV: University of Nevada Press.

Dorfman, S. (2000). *Preventive interventions under managed care: Mental health and substance abuse services*. (DHHS Publication No. [SMA] 00-3437). Rockville, MD: Center for Mental Health Services, Substance Abuse and Mental Health Services Administration.
Available at http://www.mentalhealth.org/publications/allpubs/SMA00-3437/.

Dufour, M.C. (1999). What is moderate drinking? Defining 'drinks' and drinking levels. *Alcohol Research & Health,* 23 (1), 5-14.
Available at http://www.niaaa.nih.gov/publications/.

Dunstan, R. (1997). *Gambling in California*. Sacramento, CA: California Research Bureau, California State Library.
Available at http://www.library.ca.gov/.

Eadington, W.R. (1998). Contributions of casino-style gambling to local economies. *Annals of the American Academy of Political and Social Science* 556, 53-65.

Echeburúa, E., Baez, C. & Fernandez-Montalvo, J. (1996). Comparative effectiveness of three therapeutic modalities in the psychological treatment of pathological gambling: Long-term outcome. *Behavioural and Cognitive Psychotherapy,* 24, 51-72.

Engel, G.L. (1977). The need for a new medical model: A challenge for biomedicine. *Science*, 196*,* 129-36.

Findlay, J.M. (1986). *People of Chance: Gambling in American Society from Jamestown to Las Vegas*. New York, NY: Oxford University Press.

Franklin, J., Director of Training, Institute for Problem Gambling. Personal communication to R.A. Volberg. October 28, 2004.

Gambino, B. & Cummings, T.N. (1989). Treatment for compulsive gambling: Where are we now? In *Compulsive Gambling: Theory, Research, and Practice*. Shaffer, H.J., Stein, S.A., Gambino, B. & Cummings, T.N. (eds). Boston: Lexington Books. (Pp. 315-335).

Gambino, B., Fitzgerald, R., Shaffer, H.J., Renner, J. & Courtnage, P. (1993). Perceived family history of problem gambling scores on the SOGS. *Journal of Gambling Studies,* 9 (2), 169-184.

Gambling Review Body, Department for Culture, Media and Sport. (2001). *Gambling Review Report*. Norwich: HMSO.
Available at http://www.culture.gov.uk/.

GamCare. (2002). *GamCare Care Services Report*. GamCare: National Association for Gambling Care, Educational Resources and Training.

GamCare. (2003). *GamCare Care Services Report*. GamCare: National Association for Gambling Care, Educational Resources and Training.

GamCare. (2004). *GamCare News 19*. Winter 2004.

Gavan, S. & Slowo, D. (1997). *Single session consultation and problem gambling: An evolving approach*. Paper presented at the 10th International Conference on Gambling and Risk Taking. Montreal, Canada.

George, E., Chief Executive Officer, North American Training Institute. Personal communication to E. Geffner. October 7, 2004.

Gerstein, D.R., Volberg, R.A., Toce, M.T., Harwood, H., Palmer, A., Johnson, R., Larison, C., Chuchro, L., Buie, T., Engelman, L. & Hill, M.A. (1999). *Gambling impact and behavior study: Report to the National Gambling Impact Study Commission*. Chicago, IL: National Opinion Research Center at the University of Chicago.
Available at http://cloud9.norc.uchicago.edu/dlib/ngis.htm

Gilovich, T. (1983). Biased evaluation and persistence in gambling. *Journal of Personality & Social Psycholology* 44 (6), 1110-26.

Goudriaan, A. E., J. Oosterlaan, et al. (2004). Pathological gambling: A comprehensive review of biobehavioral findings. *Neuroscience & Biobehaviorial Reviews* 28 (2), 123-41.

Govoni, R., Frisch, G.R. & Stinchfield, R. (2001). *A critical review of screening and assessment instruments for problem gambling*. Windsor: University of Windsor Problem Gambling Research Group.
Available at http://www.gamblingresearch.org/.

Grant, J.E. & Kim, S.W. (2002). Gender differences in pathological gamblers seeking medication treatment. *Comprehensive Psychiatry*, 43(1), 56-62.

Grant, J.E., Kim, S.W. & Potenza, M.N. (2003). Advances in the pharmacological treatment of pathological gambling. *Journal of Gambling Studies* 19 (1), 85-109.

Green, M. (2004). Casino operators see the value of versatile kiosks. *International Gaming & Wagering Business,* 25 (8), 22-25.

Griffiths, M. & Cooper, G. (2003). Online therapy: implications for problem gamblers and clinicians. *British Journal of Guidance and Counselling,* 31 (1), 113-135.

Gupta, R. & Derevensky, J. (1998). Adolescent gambling behavior: A prevalence study and examination of the correlates associated with problem gambling. *Journal of Gambling Studies,* 14 (4), 319-345.

Gupta, R. & Derevensky, J.L. (2000). Adolescents with gambling problems: From research to treatment. *Journal of Gambling Studies* 16 (2/3), 315-342.

Harrahs Entertainment. (2004). *Know When to Stop Before You Start®*. Author.
Available at http://www.harrahs.com/about_us/.

Heim, C., Plotsky, P.M. et al. (2004). Importance of studying the contributions of early adverse experience to neurobiological findings in depression. *Neuropsychopharmacology* 29(4), 641-8.

Hill, E.G. (1998). *Gambling in California: An Overview*. Sacramento, CA: Legislative Analyst's Office.
Available at http://www.lao.ca.gov/1998/12998_gambling/.

Hing, N. & M. Dickerson. (2001). *Responsible gambling: Australian voluntary and mandatory approaches*. Melbourne: Australian Gaming Council.
Available at http://www.austgamingcouncil.org.au/research/files.

Hodgins, D.C. & el-Guebaly, N. (2000). Natural and treatment-assisted recovery from gambling problems: a comparison of resolved and active gamblers. *Addiction*, 95, 777-789.

Hodgins, D.C., Currie, S.R. & el-Guebaly, N. (2001). Motivational enhancement and self-help treatments for problem gambling. *Journal of Consulting and Clinical Psychology*, 69 (1), 50-57.

Hodgins, D.C., Wynne, H. & Makarchuk, K. (1999). Pathways to recovery from gambling problems: Follow-up from a general population survey. *Journal of Gambling Studies,* 15 (2), 93-104.

Hollander, E., DeCaria, C.M., Finkel, J.N., Begaz, T., Wong, C.M. & Cartwright, C. (2000). A randomized double-blind fluvoxamine/placebo crossover trial in pathological gambling. *Biological Psychiatry*, 47, 812-817.

Houston, T.K., Cooper, L.A. & Ford, D.E. (2002). Internet support groups for depression: A one-year prospective cohort study. *American Journal of Psychiatry,* 159 (12), 2062-68.

Ibanez, A., Blanco, C. et al. (2003). Genetics of pathological gambling. *Journal of Gambling Studies* 19 (1), 11-22.

Ibanez, A., Perez de Castro, I. et al. (2000). Pathological gambling and DNA polymorphic markers at MAO-A and MAO-B genes. *Molecular Psychiatry* 5 (1), 105-9.

Institute of Governmental Studies. (2004). *Indian Gaming in California*. Berkeley, CA: University of California.
Available at http://www.igs.berkeley.edu/library/htIndianGaming.htm.

Institute of Medicine. (1990). *Broadening the base of treatment for alcohol problems*. Washington, DC: National Academy Press.

IPART. (2004). *Gambling: Promoting a Culture of Responsibility*. Independent Pricing and Regulatory Tribunal of New South Wales.
Available at http://www.ipart.nsw.gov.au/pdf/Gambling04.pdf

Jackson, A., Thomas, S.A. & Blaszczynski, A. (2003). *Best practice in problem gambling services*. Prepared for the Gambling Research Panel by Melbourne Enterprise International. Melbourne: Gambling Research Panel.
Available at http://www.grp.vic.gov.au/.

Jackson, A., Thomas, S.A. Thomason, N. & Ho, W. (2002). *Longitudinal evaluation of the effectiveness of problem gambling counselling services, community education strategies, and information products. Vol. 3: Community Education Strategies and Information Products*. Melbourne: Victoria Department of Human Services.
Available at http://www.problemgambling.vic.gov.au.

Jacobs, D.F. (1988). Evidence for a common dissociative-like reaction among addicts. *Journal of Gambling Behavior* 4, 27-37.

Jacobs, D.F. (2000). Juvenile gambling in North America: An analysis of long term trends and future prospects. *Journal of Gambling Studies,* 16 (2/3), 119-152.

Jensen, S., Director of Communications, California Nations Indian Gaming Association. Personal communication to A. Carr, California Gambling Control Commission. October 15, 2004.

Johnson, E.E., Hamer, R., Nora, R. M., Tan, B., Eisenstein, N. & Engelhart, C. (1997). The lie/bet questionnaire for screening pathological gamblers. *Psychological Reports* 80, 83-88.

Johnston, D. (1992). *Temples of Chance: How America Inc. Bought Out Murder Inc. to Win Control of the Casino Business*. New York, NY: Doubleday.

Kallick, M., Suits, D., Dielman, T. & Hybels, J. (1976). *Survey of American gambling attitudes and behavior: Final report to the Commission on the Review of the National Policy Toward Gambling*. Ann Arbor: Survey Research Center, Institute for Social Research.

Kim, S.W., Grant, J.E., Adson, D.E. & Shin, Y. (2001). Double-blind naltrexone and placebo comparison study in the treatment of pathological gambling. *Biological Psychiatry,* 49, 914-921.

King, S.A & Moreggi, D. (1998). Internet therapy and self help groups: The pros and cons. In *Psychology and the Internet: Intrapersonal, Interpersonal and Transpersonal Implications,* J. Gackenbach (ed). San Diego, CA: Academic Press. (Pp. 77-109).
Available at http://webpages.charter.net/stormking/Chapter5/selfhelp.html.

Korn, D.A. & Shaffer, H.J. (2004). *Practice guidelines for treating gambling-related problems: An evidence-based treatment guide for clinicians*. Boston, MA: Massachusetts Department of Public Health.

Korn, D.A., Lombardo, C. & Murray, M. (2002). *Adolescent gambling problems: Public health intervention using the Internet*. Paper presented at Discovery 2002. Niagara Falls, Ontario.

Kwan, E., Clinical Psychologist, Hong Kong. Post to *GamblingIssuesInternational*. October 31, 2004.

Ladd, G.T. & & Petry, N.M. (2002). A comparison of pathological gamblers with and without substance abuse treatment histories. *Experimental and Clinical Psychopharmacology,* 11 (3), 202-209.

Ladouceur, R. & M. Walker. (1996). A Cognitive Perspective on Gambling. In *Trends in Cognitive and Behavioral Therapies*, P.M. Salkovskis (ed). New York: John Wiley & Sons Ltd. (Pp. 89-120).

Ladouceur, R., Boisvert, J-M. & Dumont, J. (1994). Cognitive behavioral treatment for adolescent pathological gamblers. *Behavior Modification,* 18, 230-242.

Ladouceur, R., Vézina, L., Jacques, C. & Ferland, F. (2000). Does a brochure about pathological gambling provide new information? *Journal of Gambling Studies,* 16 (1), 103-107.

Ladouceur, R., Boutin, C., Doucet, C., Dumont, M., Provencher, M., Giroux, I. & Boucher, C. (2004). Awareness promotion about excessive gambling among video lottery retailers. *Journal of Gambling Studies,* 20 (2), 181-185.

Langer, E.J. (1975). The illusion of control. *Journal of Personality and Social Psychology* 32, 311-328.

Lasseters Corporation. (2003). *Review of issues related to Commonwealth Interactive Gaming Regulation*. Canberra: Department of Communications Information Technology and the Arts. Available at http://www.dcita.gov.au/.

Lesieur, H.R. (1985). *The Female Pathological Gambler*. Report to the New York State Office of Mental Health. Albany, NY: Office of Mental Health.

Lesieur, H.R. (1998). Costs and treatment of pathological gambling. *Annals of the American Academy of Political and Social Science,* 556, 153-171.
Lesieur, H.R. & Blume, S.B. (1987). The South Oaks Gambling Screen (SOGS): A new instrument for the identification of pathological gamblers. *American Journal of Psychiatry,* 144, 1184-1188.

Lesieur, H.R. & Blume, S.B. (1991). When Lady Luck loses: Women and compulsive gambling. In *Feminist Perspectives on Addictions*, N. van den Bergh (ed). New York, NY: Springer. (Pp. 181-197).

Livingstone, C., Woolley, R. & Borrell, J. (2004). *The changing Electronic Gaming Machine (EGM) industry and technology: Discussion paper: Contexts, characteristics and impacts of*

EGM technology. Prepared for the Gambling Research Panel, Victoria. La Trobe University, Australian Institute for Primary Care.
Available at http://www.latrobe.edu.au/aipc.

Lopez-Viets, V.C. & Miller, W.R. (1997). Treatment approaches for pathological gamblers. *Clinical Psychology Review,* 17 (7), 689-702.

Madara, E.J. (1997). The mutual-aid self-help online revolution. *Social Policy,* 27 (3), 20-26.

Manitoba Lotteries Corporation. (2004). *A Strategic Plan for Manitoba Lotteries Corporation*.
Available at http://www.mlc.mb.ca/.

Marotta, J. (2004). *Problem Gambling Services: Service Delivery Overview, 2003-2005 Biennium*. Report to State of Oregon Department of Human Services.
Available at http://www.dhs.state.or.us/addiction/publications/.

McConaghy, N., Blaszczynski, A. & Frankova, A. (1991). Comparison of marginal desensitization with other behavioral treatments of pathological gambling. *British Journal of Psychiatry,* 159, 390-393.

McConaghy, N., Armstrong, M.S., Blaszczynski, A. & Allcock, C. (1983). Controlled comparison of aversive therapy and imaginal desensitisation in compulsive gambling. *British Journal of Psychiatry,* 142, 366-372.

McCongahy, N., Armstrong, M.S., Blaszczynski, A. & Allcock, C. (1988). Behavior completion versus stimulus control in compulsive gambling: Implications for behavioral assessment. *Behavior Modification,* 12, 371-384.

McGowan, V.M. (2003). Net-working the steps: Web-based support for women in recovery from problem gambling. *Electronic Journal of Gambling Issues,* Issue 8.
Available at http://www.camh.net/egambling/.

McMillen, J. (2003). *Submission to the Interactive Gambling Act 2001 Review*. Report to the Australian Government Department of Communications, Information Technology and the Arts.
Available at http://www.dcita.gov.au/.

Mehmel, B., Manager, Responsible Gaming, Manitoba Lotteries Corporation. Post to *GamblingIssuesInternational*. June 28, 2004.

Merriam Webster. (2004). *Merriam Webster Online Dictionary, 10th Edition*.
Available at http://www.m-w.com/.

Middleton, R. (2004). Executive Director, Louisiana Association on Compulsive Gambling. Personal communication to R.A. Volberg. November 17, 2004.

Moore, T. L. & Marotta, J.J. (2004). *Gambling Treatment Programs Evaluation Update – 2003*. Report prepared for the State of Oregon Mental Health and Addictions Services Department of Human Services.
Available at http://www.gamblingaddiction.org/.

Moran-Cooper, M., Kruedelbach, N. & Biller, W. (2003). *From helpline inquiry to completed clinical assessment: Proactive strategies to turn callers to clients*. Paper presented at the 17th National Conference on Problem Gambling. Louisville, KY.

Murphy, L.J. & Mitchell, D.L. (1998). When writing helps to heal: Email as therapy. *British Journal of Guidance and Counselling,* 26, 21-32.

Najavits, L., Grymala, L.D. & George, B. (2003). Can advertising increase awareness of problem gambling? A statewide survey of impact. *Psychology of Addictive Behaviors,* 17 (4), 324-327.

Napolitano, F. (2003). The Self-Exclusion Program: Legal and clinical considerations. *Journal of Gambling Studies*, 19 (3), 303-315.

National Association of State & Provincial Lotteries. (2004). *Provisions for Compulsive Gambling as of January 2001*.
Available at http://www.naspl.org/programs.html.

National Center for Responsible Gaming. (2004). *Employee Responsible Gaming Certification Program*.
Available at http://www.ncrg.org/research/institute.cfm.

National Council on Problem Gambling. (1999). *1998 National survey of problem gambling programs*. Report prepared for the National Gambling Impact Study Commission.

National Council on Problem Gambling. Task Force on Self Exclusion. (2003). *Discussion Paper on Current Voluntary Exclusion Practices*. Washington, DC: Author.
Available at http://www.ncpgambling.org/.

National Gambling Impact Study Commission. (1999). *Final report*. Washington, DC: Government Printing Office.
Available at http://govinfo.library.unt.edu/ngisc/index.html.
National Research Council. (1999). *Pathological gambling: A critical review*. Washington, DC: National Academy Press.

Nibert, D. (2000). *Hitting the Jackpot: Government and the Taxing of Dreams*. New York, NY: Monthly Review Press.

NICOS. (2004). *Chinese Community Task Force on Gambling*.
Available at http://www.nicoschc.com/ccpgp.html.

Nowatzki, N.R. & Williams, R.J. (2002). Casino self-exclusion programmes: A review of the issues. *International Gambling Studies,* 2, 3-25.

Oakely-Brown, M., Adams, P. & Mobberly, P. (2004). Interventions for pathological gambling (Cochrane Review). In *The Cochrane Library,* Issue 2. Chichester, UK: John Wiley and Sons.

Office of the Attorney General. 2004. *General Information and History*. Sacramento, CA: California Department of Justice.
Available at http://caag.state.ca.us/gambling/.

Olynik, S. (2004). *Responsible Gambling Media Campaigns*. Paper presented at Symposium 2004.
Available at http://www.responsiblegambling.org/.

Orford, J., Sproston, K., Erens, B., White, C. & Mitchell, L. (2003). *Gambling and problem gambling in Britain*. Hove: Brunner-Routledge.

Ozga, D. & Brown, J. (2002). Pathological gambling: Identification and treatment. *Journal of Psychosocial Nursing & Mental Health Services* 40(3), 22-30.

Parets, R.T. (2004). Casino customers offered more ways to obtain money. *International Gaming & Wagering Business,* 25 (7), 24-27.

Paton-Simpson, G.R., Gruys, M.A. & Hannifin, J.B. (2004). *Problem gambling counselling in New Zealand: 2003 national statistics*. Palmerston North: The Problem Gambling Committee.

Perez de Castro, I., Ibanez, A. et al. (1999). Genetic contribution to pathological gambling: Possible association between a functional DNA polymorphism at the serotonin transporter gene (5-HTT) and affected men. *Pharmacogenetics* 9(3), 397-400.

Petry, N.M. (2001). Substance abuse, pathological gambling, and impulsiveness. *Drug and Alcohol Dependence,* 63, 29-38.

Petry, N.M. (2002). How treatments for pathological gambling can be informed by treatments for substance use disorders. *Experimental and Clinical Psychopharmacology,* 10 (3), 184-192.

Petry, N.M. & Armentano, C. (1999). Prevalence, assessment, and treatment of pathological gambling: a review. *Psychiatric Services,* 50 (8), 1021-1027.

Petry, N. M., Armentano, C. et al. (2003). Gambling participation and problems among South East Asian refugees to the United States. *Psychiatric Services* 54(8): 1142-8.

Petry, N.M., Steinberg, M. et al. (In press). Childhood maltreatment in male and female treatment-seeking pathological gamblers. *Psychology of Addictive Behaviors*.

Pinkerton, S., Community Activist, South Australia. Post to *GamblingIssuesInternational*. October 27, 2004.

Potenza, M.N. (2001). The neurobiology of pathological gambling. *Seminars in Clinical Neuropsychiatry,* 6, 217-226.

Potenza, M.N. & Winters, K.C. (2003). The neurobiology of pathological gambling: Translating research findings into clinical advances. *Journal of Gambling Studies* 19(1), 7-10.

Potenza, M.N., Steinberg, M.A., McLaughlin, S.D., Wu, R., Rounsaville, B.J. & O'Malley, S.S. (2001). Gender-related differences in the characteristics of problem gamblers using a gambling helpline. *American Journal of Psychiatry* 158, 1500-1505.

Potenza, M.N., Steinberg, M.A., McLaughlin, S., Wu, R., Lavelle, E.T., Wilber, M.K., Teutenauer, E. & O'Malley, S.S. (2003). Characteristics of problem gamblers reporting problematic alcohol use. *Alcoholism: Clinical and Experimental Research, 2*, 286.

Productivity Commission. (1999). *Australia's gambling industries, Report No. 10*. Canberra: AusInfo.
Available at http://www.pc.gov.au/.

Raylu, N. & Oei, T.P.S. (2002). Pathological gambling: A comprehensive review. *Clinical Psychology Review,* 22, 1009-1061.

Robson, E., Edwards, J., Smith, G. & Colman, I. (2002). Gambling decisions: An early intervention program for problem gamblers. *Journal of Gambling Studies,* 18 (3), 235-255.

Rockloff, M.J. & Schofield, G. (2004). Factor analysis of barriers to treatment for problem gambling. *Journal of Gambling Studies,* 20 (2), 121-126.

Rose, I.N. (1986). *Gambling and the Law*. Hollywood, CA: Gambling Times, Inc.

Rose, I.N. (1999). The myth of the level playing field. *Casino Executive* (April).

Rosenthal, R.J. (1996). Self-deception and deceit. Unpublished paper.

Rosenthal, R.J. (In press). Staying in action: The pathological gambler's equivalent of the dry drunk. *Journal of Gambling Issues*.
Available at http://www.camh.net/egambling/.

Rosenthal, R.J. & Fong, T. (2004). *The Etiology of Pathological Gambling*. Report to the California Office of Problem Gambling.

Rosenthal, R.J. & Lesieur, H.R. (1992). Self-reported withdrawal symptoms and pathological gambling. *American Journal on Addiction*, 1, 150-154.

Rosenthal, R.J. & Rugle, L. (1994). A psychodynamic approach to the treatment of pathological gambling: Part I. Achieving abstinence. *Journal of Gambling Studies*, 10 (1), 21-42.

Rosenthal, R.J. & Rugle, L. (1998). *Differences between pathological gamblers and substance abusers: Rationale for gambling specific treatment*. Paper presented to the Indiana Commission on the Impact of Gambling.

Rounsaville, B.J., Anton, S.F., Carroll, K., Budde, D., Prusoff, B.A., et al. (1991). Psychiatric diagnoses of treatment seeking cocaine abusers. *Archives of General Psychiatry*, 48, 43-51.

Roy, A., Adinoff, B., Roehrich, L., Lamparski, D., Custer, R., Lorenz, V., Barbaccia, M., Guidotti, A., Costa, E. & Linnoila, M. (1988). Pathological gambling: A psychobiological study. *Archives of General Psychiatry* 45, 369-373.

Rugle, L. (2004a). *Prevention: Minimizing the Incidence of Gambling Problems and the Harm of Problem Gambling*. Report to the California Office of Problem Gambling.

Rugle, L. (2004b). *The Treatment of Problem and Pathological Gambling*. Report to the California Office of Problem Gambling.

Rugle, L. & Melamed, L. (1993). Neuropsychological assessment of attention problems in pathological gamblers. *Journal of Nervous and Mental Disease* 181, 107-112.

Rugle, L.J., Derevensky, J., Gupta, R., Winters, K.C. & Stinchfield, R. (2001). *The treatment of pathological gambling*. Commissioned by the Center for Mental Health Services, Substance Abuse and Mental Health Services Administration.

Rutherford, J. (2004). New Zealand imposes tax to fund programs for problem gamblers. *International Gaming & Wagering Business* 25 (10), 18.

Sanders, P. & Rosenfield, M. (1998). Counselling at a distance: Challenges and new initiatives. *British Journal of Guidance and Counselling,* 26, 5-10.

Schellinck, T. & Schrans, T. (2002). *Atlantic Lottery Corporation video lottery responsible gaming feature research - Final report*. Focal Research Consultants Ltd.
Available at http://www.gamingcorp.ns.ca/responsible/pbrgf.htm.
Schneider, G. (2003). Judge creates first court for treating gamblers. *Louisville Courier Journal* (June 20, 2003).
Available at http://www.courier-journal.com.

Schrans, T., Schellinck, T. & Walsh, G. (2000). *Technical report: 2000 regular VL players followup: A comparative analysis of problem development and resolution*. Focal Research Consultants Ltd.
Available at http://www.gov.ns.ca/health/downloads/VLPlayers_Technical_Report.pdf.

Shaffer, H.J. & Hall, M.N. (2002). The natural history of gambling and drinking problems among casino employees. *Journal of Social Psychology,* 142 (4), 405-424.

Shaffer, H.J., Hall, M.N. & Vander Bilt, J. (1999). Estimating the prevalence of disordered gambling behavior in the United States and Canada: A research synthesis. *American Journal of Public Health,* 89 (9), 1369-1376.

Shaffer, H.J., LaBrie, R.A. & LaPlante, D. (2004). Laying the foundation for quantifying regional exposure to social phenomena: Considering the case of legalized gambling as a public health toxin. *Psychology of Addictive Behaviors,* 18 (1), 40-48.

Shephard, J. (2004). Training Resource Manager, Iowa Substance Abuse Program Directors' Association. Post to *GamblingIssuesInternational*. October 7, 2004.

Shults, R.A., Elder, R., Sleet, D.A., Nichols, J.L., Alao, M.O., Carande-Kulis, V.G., Zaza, S., Sosin, D.M., Thompson, R.S. & Task Force on Community Preventive Services. (2001). Reviews of evidence regarding interventions to reduce alcohol-impaired driving. *American Journal of Preventive Medicine,* 21 (4S), 66-88. Available at http://www.thecommunityguide.org/mvoi/mvoi-AJPM-evrev-alchl-imprd-drvng.pdf.

Simon, G.E., Ludman, E.J., Tutty, S., Operskalski, B. & Von Korff, M. (2004). Telephone psychotherapy and telephone care management for primary care patients starting antidepressant treatment: A randomized controlled trial. *Journal of the American Medical Association,* 292 (8), 935-942.

Sinclair, S. & Volberg, R.A. (2000). *Submission to the U.K. Gambling Review Body on Internet gambling*.

Slutske, W.S., Jackson, K.M. & Sher, K.J. (2003). The natural history of problem gambling from age 18 to 29. *Journal of Abnormal Psychology,* 112 (2), 263-274.

Slutske, W.S., Eisen, S., True, W.R., Lyons, M.J., Goldberg, J. & Tsuang, M. (2000). Common genetic vulnerability for pathological gambling and alcohol dependence in men. *Archives of General Psychiatry,* 57, 666–673.

Slutske, W.S., Eisen, S.A., Xian, H., True, W.R., Lyons, M.J., Goldberg, J. & Tsuang, M.T. (2001). A twin study of the association between pathological gambling and antisocial personality disorder. *Journal of Abnormal Psychology,* 110, 297-308.

Smith, G.J. & Wynne, H.J. (2002). *Measuring gambling and problem gambling in Alberta using the Canadian Problem Gambling Index (CPGI)*. Alberta Gaming Research Institute.

Smith, G.J., Volberg, R.A. & Wynne, H.J. (1994). Leisure behavior on the edge: Differences between controlled and uncontrolled gambling practices. *Society & Leisure,* 17 (1), 233-248.

Smith, R. (2004). California deal with tribes unlikely to hurt Las Vegas. *Las Vegas Review Journal* (June 22, 2004).
Available at http://www.reviewjournal.com/.

Smitheringale, B. (2001). *The Manitoba Problem Gambling Customer Assistance Program: A summary report*. Winnipeg: Addictions Foundation of Manitoba.
Available at http://www.afm.mb.ca/.

Sobell, M. B. & Sobell, L. C. (1999). Stepped care for alcohol problems: An efficient method for planning and delivering clinical services. In *Changing Addictive Behavior: Bridging Clinical and Public Health Strategies*, Tucker, J.A., Donovan, D. M. & Marlatt, G.A. (eds). New York, NY: Guilford Press. (Pp. 331-343).

South Australian Centre for Economic Studies. (2003). *Evaluation of self-exclusion programs in Victoria*. Victoria, Australia: Gambling Research Panel.
Available at http://www.grp.vic.gov.au/.

Specker, S.M., Carlson, G.A., Edmonson, K.M., Johnson, P.E. & Marcotte, M. (1996). Psychopathology in pathological gamblers seeking treatment. *Journal of Gambling Studies,* 12 (1), 67-81.

Steinberg, M.A. (2002). *Problem Gambling Awareness Certification Training Program for Gambling Facility Employees*. Paper presented at Discover 2002. Niagara Falls, Canada.

Stinchfield, R. & Winters, K.C. (1998). Gambling and problem gambling among youths. *Annals of the American Academy of Political and Social Science* 556, 172-185.

Sullivan, S., Abbott, M.W., McAvoy, B. & Arroll, B. (1994). Pathological gamblers - will they use a new telephone hotline? *New Zealand Medical Journal,* 107, 313-315.

Sylvain, C., Ladouceur, R. & Boisvert, J. (1997). Cognitive and behavioral treatment of pathological gambling: A controlled study. *Journal of Consulting & Clinical Psychology*, 65, 727-732.

Taber, J.I., McCormick, R.A. & Ramirez, L.F. (1987). The prevalence and impact of major life stressors among pathological gamblers. *International Journal of the Addictions* 22, 71-79.

Takushi, R.Y., Neighbors, C., Larimer, M.E., Lostutter, T.W., Cronce, J.M. & Marlatt, A.G. (2004). Indicated prevention of problem gambling among college students. *Journal of Gambling Studies,* 20 (1), 83-93.

Tavares, H., Zilberman, M.L. & el-Guebaly, N. (2003). Are there cognitive and behavioural approaches specific to the treatment of pathological gambling? *Canadian Journal of Psychiatry,* 48 *(1*), 22-28.

Tavares, H., Zilberman, M.L., Beites, F.J. & Gentil, V. (2001). Gender differences in gambling. *Journal of Gambling Studies,* 17, 151-159.

Thomas, S. & Jackson, A. (2000). *Longitudinal evaluation of the effectiveness of problem gambling counselling services, community education strategies, and information products - Volume 5: Natural recovery from problem gambling*. Melbourne: Victorian Department of Human Services.

Thomas, S., Jackson, A. & Blaszczynski, A. (2003). *Measuring problem gambling: Evaluation of the Victorian Gambling Screen.* Report to the Gambling Research Panel by Melbourne Enterprise International.

Thompson, W.N. (1997). *Legalized gambling: A reference handbook*. Santa Barbara, CA: ABC-CLIO.

Toneatto, T., Center for Addiction and Mental Health. Personal communication to R.A. Volberg. August 11, 2004.

Toneatto, T. & Ladouceur, R. (2003). Treatment of pathological gambling: a critical review of the literature. *Psychology of Addictive Behaviors,* 42, 92-99.

Toneatto, T., Blitz-Miller, T., Calderwood, K., Dragonetti, R. & Tsanos, A. (1997). Cognitive distortions in heavy gambling. *Journal of Gambling Studies* 13(3), 253-266.

Turner, N. & Horbay, R. (2004). How do slot machines and other electronic gambling machines really work? *Journal of Gambling Issues* 11: Feature Article.
Available at http://www.camh.net/egambling/.

Turner, N.E., Littman-Sharp, N., Zangeneh, M. & Spence, W. (2003). *Winners: Why do some develop gambling problems while others do not?* Report to the Ontario Ministry of Health, Substance Abuse Bureau.

U.S. Preventive Services Task Force. (1996). *Guide to clinical preventive services*, 2nd edition. Washington, DC: Department of Health & Human Services.

Vitaro, F., Arseneault, L. & Tremblay, R.E. (1999). Impulsivity predicts problem gambling in low SES adolescent males. *Addiction,* 94*,* 565-575.
Volberg, R.A. (1994). The prevalence and demographics of pathological gamblers: Implications for public health. *American Journal of Public Health,* 84 (2), 237-241.

Volberg, R.A. (2001). *When the chips are down: Problem gambling in America*. New York, NY: The Century Foundation.

Volberg, R.A. (2002). *Gambling and problem gambling in Nevada*. Report to the Nevada Department of Human Resources. Carson City, NV: Department of Human Resources.
Available at http://www.hr.state.nv.us/.

Volberg, R.A. (2003a). *Gambling and problem gambling in Arizona*. Phoenix, AZ: Arizona Lottery.
Available at http://www.problemgambling.az.gov/statistics.htm

Volberg, R.A. (2003b). Has there been a 'feminization' of gambling and problem gambling in the United States? *Electronic Journal of Gambling Issues* Issue 8: Feature Article.
Available at http://www.camh.net/egambling/.

Volberg, R.A. (2003c). Why pay attention to adolescent gambling? In *Reducing Adolescent Risk: Toward an Integrated Approach*, D. Romer (ed). Thousand Oaks, CA: Sage Publications. (Pp. 256-261).

Volberg, R.A. (2004a). *Issues and challenges in addressing problem gambling in the U.S.A.* Paper presented at the International Gambling Conference. Auckland, New Zealand. May 13, 2004.

Volberg, R.A. (2004b). *Epidemiological Examination of Gambling and Gambling Related Problems*. Paper presented at the First International Meeting on Gambling Research and Other Addictive Behaviours. Barcelona, Spain. October 15-16, 2004.

Volberg, R.A. (2004c). *Review of Research on the Epidemiology of Problem Gambling*. Report to the California Office of Problem Gambling.

Volberg, R.A. & Abbott, M.W. (1997). Gambling and problem gambling among indigenous peoples. *Journal of Substance Use and Misuse,* 32 (11), 1525-1538.

Volberg, R.A. & McNeilly, D. (2003). *Gambling and problem gambling among seniors in Florida*. Maitland: Florida Council on Compulsive Gambling.

Volberg, R.A., Toce, M.T. & Gerstein, D.R. (1999). From back room to living room: Changing attitudes toward gambling. *Public Perspective* 10 (5), 8-13.

Volberg, R.A., Abbott, M.W., Rönnberg, S. & Munck, I.M. (2001). Prevalence and risks of pathological gambling in Sweden. *Acta Psychiatrica Scandinavica,* 104 (4), 250-256.

Volberg, R.A., Dickerson, M.G., Ladouceur, R. & Abbott, M.W. (1996). Prevalence studies and the development of services for problem gamblers and their families. *Journal of Gambling Studies,* 12 (2), 215-231.

Walker, M.B. (1992). *The Psychology of Gambling.* New York, NY: Permagon.

Walker, M.B. (1993). Treatment strategies for problem gambling: A review of effectiveness. In *Gambling Behavior and Problem Gambling*, W.R. Eadington & Cornelius, J.A. (eds). Reno, NV: University of Nevada Press. (Pp. 533-566).

Walters, G.D. (2001). Behavior genetic research on gambling and problem gambling: A preliminary meta-analysis of available data. *Journal of Gambling Studies* 17(4), 255-71.

Weinstock, J., Whelan, J.P. & Meyers, A.W. (2004). *Behavioral Indicators of Pathological Gambling*. Paper presented at the International Symposium on Problem Gambling and Co-Occurring Disorders. Mystic, CT. October 18-19, 2004.

Welte, J., Barnes, G., Wieczorek, W., Tidwell, M-C. & Parker, J. (2001). Alcohol and gambling among U.S. adults: Prevalence, demographic patterns and comorbidity. *Journal of Studies on Alcohol,* 62 (5), 706-712.

Welte, J., Wieczorek, W., Barnes, G.M., Tidwell, M-C. & Hoffman, J.H. (2004). The relationship of ecological and geographic factors to gambling behavior and pathology. *Journal of Gambling Studies*, 20 (4), 405-423.

Wiebe, J. Director of Research, Responsible Gambling Council (Ontario). Personal communication to R.A. Volberg. October 27, 2004.

Wiebe, J. & Falkowski-Ham, A. (2003). *Understanding the audience: The key to preventing youth gambling problems*. Toronto: Responsible Gambling Council.
Available at http://www.responsiblegambling.org/.

Winters, K. (1999). A twin study of adult gambling behavior. *Journal of Gambling Studies* 14, 213-225.

Winters, K.C., Bengston, P.L., & Stinchfield, R.D. (1996). *Findings from a Follow-up Study of Callers to the Minnesota Problem Gambling Hotline*. Minneapolis, MN: Department of Psychiatry, University of Minnesota.

Zitzow, D. (1996). Comparative study of problematic gambling behaviors between American Indian and non-Indian adults in a northern plains reservation. *American Indian and Alaska Native Mental Health Research,* 7 (2), 27-41.